FINDING OF NO SIGNIFICANT IMPACT
AND
FINDING OF NO PRACTICABLE ALTERNATIVE
CONSTRUCTION OF A WAREHOUSE COMPLEX
MACDILL AIR FORCE BASE, FLORIDA

Agency: United States Air Force (USAF), Headquarters Air Mobility Command

Background: Pursuant to the President's Council on Environmental Quality (CEQ) regulations, Title 40 Code of Federal Regulations (CFR) Parts 1500-1508, as they implement the requirements of the National Environment Policy Act (NEPA) of 1969, 42 U.S.C. § 4321, et seq., and the Air Force Environmental Impact Analysis Process as promulgated in 32 CFR Part 989, USAF conducted an assessment of the potential environmental consequences associated with implementation of the following proposed action: Construction of a Warehouse Complex which would consist of up to eight warehouses. The Environmental Assessment (EA) considered all potential impacts of the proposed action and alternatives, both as solitary actions and in conjunction with other proposed activities. This finding of no significant impact (FONSI) summarizes the results of the evaluation and the conclusions regarding the significance of impacts from the proposed action. The finding of no practicable alternative (FONPA) summarizes the conclusion reached regarding the location of the proposed action in a wetland and flood plain.

Proposed Action: The proposed action involves the construction of a warehouse complex to meet the material and supplies storage requirements of MacDill AFB and the demolition of a septic system and drainfield. Equipment and supplies are currently stored at various locations throughout the base. Construction of a consolidated warehouse complex, with up to eight buildings for the base, would greatly improve the current storage situation. The location of the proposed action is in an industrial area just north of the North Boundary Road, adjacent to Defense Fuels Supply Point and Defense Reutilization Marketing Office, located in the western portion of MacDill AFB FL.

Alternatives: Four alternatives to the proposed action were considered as part of this EA, including the construction of a new warehouse complex outside the 100-year coastal flood plain, leasing an off-base warehouse facility, constructing a new warehouse complex at an alternative location on-base, and the no action alternative. However, only the proposed action and the no action alternatives were carried through the entire evaluation. The other alternatives were not considered reasonable alternatives based on financial, environmental, and permitting considerations.

Under the no action alternative, there would be no construction of a warehouse complex. If this alternative were implemented, the base would continue to utilize unassigned facility space at scattered locations throughout the base (e.g., Buildings 715, 1090, and 1092) to store equipment and supplies. The EA process identified the proposed action as the preferred course of action since it would best suit the needs of the base and would not result in any significant adverse environmental impacts.

Summary of Findings: The environmental consequences associated with implementation of the proposed action are summarized below and are discussed in detail in Section 4.0 of EA.

Report Documentation Page

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Air Quality: Construction vehicle exhaust would be generated during construction and would potentially occur as a result of the proposed action; however, these emissions would not constitute a major source of air pollutants. The construction and operational activities that would occur associated with the proposed action would have a negligible impact on the ambient air quality at MacDill AFB.

Noise: Noise levels would increase temporarily during construction, but potential impacts would be temporary and considered minor. The proposed action is not anticipated to create additional operational noise that would impact adjacent land uses.

Wastes, Hazardous Materials and Stored Fuels: All construction-related hazardous wastes/materials including petroleum products would be removed, stored, transported, and disposed of according to base procedures as well as applicable state and federal regulations. There would be no appreciable amounts of hazardous wastes generated by personnel during the construction activities performed under the proposed action or by individuals using the expanded boat dock constructed as part of the proposed action.

Physical Environment: There will be no significant impacts to surface or ground water quality during construction and operation of the warehouse complex or the demolition of the septic system and drainfield.

Flood Plains: The location of the proposed action is in the 100-year coastal flood plain. Currently, 80% of MacDill AFB is located within the coastal flood plain. Twenty percent of the installation that is not located within the flood plain is primarily being used for airfield operations and support activities. The warehouse complex construction will occur in the 100-year flood plain; however, the activity and warehouse complex will not significantly impact the flood plain. The project will not involve discharges of hazardous or sanitary wastewater to the flood plain or Tampa Bay. The proposed addition would only increase the existing impervious surface by 60,000 square feet. In addition, the finished floor elevation of the warehouse complex will be 11.5 feet above mean sea level which is above the 100-year flood plain level. Consequently, construction of the warehouse complex would not increase the risk of flood loss or increase the potential flood impacts to human safety, health, and welfare. All practicable measures to minimize the impact of floods on human health, safety, and welfare, and preserve the natural values of the flood plains will be implemented for the project.

Transportation: The increase in traffic during the construction of the proposed action is expected to be negligible. The operation of the new warehouse complex would have a minor beneficial long-term impact on transportation at MacDill AFB since a majority of the delivery trucks would be traveling to and from the western portion of the base away from the main base. Therefore, implementation of the proposed action would have no significant adverse impacts on transportation at MacDill AFB.

Safety and Occupational Health: The proposed construction activities for the project would pose similar safety hazards (e.g., falls, slips, heat stress, and machinery injuries) to workers typically associated with industrial construction projects,. Construction would not involve any unique hazards, and all construction methods would comply with Occupational Safety and Health Administration (OSHA) requirements to ensure the protection of workers and the general public during construction.

The proposed action abuts the quantity-distance (QD) arc for the Defense Fuels Supply Point (DFSP). QD arcs are buffers that are generated around facilities that contain high explosive munitions or flammable elements. The original site plans were modified to insure that all eight of the proposed warehouses would be located outside the QD arc. Construction of the stormwater retention pond within the QD arc is permissible and may be required. If any portion of the proposed action (road or

stormwater retention pond construction) is within the QD arc for DFSP, proper waivers will be obtained for those personnel working in the area.

Socioeconomic Resources: Implementation of the proposed action would have a minor short-term economic benefit for the MacDill AFB region.

Biological Environment: Implementation of the proposed action would have no impact on wetlands. There are no Federal or state-listed species or habitat present at the proposed construction and demolition sites. Therefore, no impacts would result from project activities.

Cumulative Impacts: There are no site-specific direct, indirect, or cumulative impacts associated with the proposed action. The construction and operational activities of the proposed action were considered in conjunction with other ongoing or planned construction projects, and together, they do not constitute significant cumulative adverse impacts.

Florida Coastal Zone Management: In accordance with the federal Coastal Zone Management Act (CZMA) and the Florida CZMA, this federal action must be consistent "to the maximum extent practicable" with the Florida Coastal Management Program (CMP). Appendix B to EA contains the Air Force's Consistency Statement and finds that the conceptual proposed action and alternative plans presented in EA are consistent with Florida's CMP. In accordance with Florida statutes, the Air Force submitted a copy of attached EA to the State of Florida so that they can perform a coastal zone consistency evaluation. The State of Florida determined that, at this stage, the proposed action is consistent with the Florida CMP. The State's final concurrence of the project's consistency with CMP will be determined during the environmental permitting stage of the project.

FONSI: Based upon my review of the facts and analyses contained in attached EA which is hereby incorporated by reference, I conclude that implementation of the proposed action will not have a significant environmental impact either by itself or cumulatively with other projects at MacDill AFB. Accordingly, the requirements of NEPA and the regulations promulgated by the Council on Environmental Quality and the Air Force are fulfilled, and an Environmental Impact Statement is not required. The *Tampa Tribune* published a Notice of Availability on 5 November 2010. Copies of agency coordination letters, project correspondence, comments received from the agencies, and public comments are included in Appendix D of EA.

FONPA: Pursuant to Executive Order 11988 and Executive Order 11990, the authority delegated in Secretary of the Air Force Order (SAFO) 791.1, and taking into consideration the findings of EA which is incorporated herein by reference, I find that there is no practicable alternative to the proposed action occurring in a flood plain. The Proposed Action includes all practicable measures to minimize harm to the environment. Based upon the environmental constraints and the nature of the warehouse complex project, there are no other available areas located on MacDill AFB that would satisfy the objectives of the proposed action. The proposed action, as designed, includes all practicable measures to minimize harm to the flood plain. The Air Force has sent all required notices to federal agencies, single points of contact, the State of Florida, local government representatives, and the local news media.

The signing of this FONSI/FONPA completes the environmental impact analysis process under Air Force regulations.

Theresa C. Carter

THERESA C. CARTER, Brig Gen, USAF
Director, Installations and Mission Support

31 May 2010

DATE

Attachment:
EA, Feb 10

FINAL

Environmental Assessment
for
Warehouse Complex
MacDill AFB, Florida

Headquarters Air Mobility Command

Scott AFB, IL

February 2010

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SECTION 1.0
PURPOSE OF AND NEED FOR PROPOSED ACTION

This Environmental Assessment (EA) examines the potential for impacts to the environment resulting from the construction of a new warehouse complex on MacDill Air Force Base (AFB). Multiple organizations require secure, enclosed warehouses for the storage of supplies and material required to support the military mission. The existing warehouse capacity on MacDill AFB does not meet current and/or future mission requirements. New warehouse space would be created on the western side of the base through construction of multiple warehouses, each facility being approximately 4,800 square feet. The estimated cost of construction per facility is approximately $800K. The complex would consist of up to eight warehouses with a total cost of approximately $6.4M.

1.1 MISSION

Since 1996, MacDill AFB has been host to the 43rd Aerial Refueling Group (ARG) which joined the 6th Air Base Wing to form the 6th Air Refueling Wing (6 ARW). With the addition of the Commander in Chief (CINC) Support mission in January 2001, the 6th ARW was redesignated the 6th Air Mobility Wing (6 AMW). The 6 AMW is the host unit at MacDill AFB and reports to the Air Mobility Command (AMC), headquartered at Scott AFB, Illinois. The mission of the wing is to provide worldwide air refueling and combatant commander airlift in support of the Air Force's Global Reach, Global Power mission and to provide support to Headquarters U.S. Central Command (USCENTCOM), Headquarters U.S. Special Operations Command (USSOCOM), and 51 other mission partners that call MacDill AFB home. In addition, the Base provides similar support to tenant agencies and the MacDill community, including over 72,000 retirees and their families. The organizational structure of 6 AMW consists primarily of a maintenance group, medical group, operations group, and mission support group.

1.2 PURPOSE OF AND NEED FOR PROPOSED ACTION

Multiple organizations require a secure, covered warehouse for the storage of materials and supplies necessary to support base operations, the mission of the 6 AMW, and our tenant

organizations. Materials and supplies that would be stored in each warehouse vary depending on the use but would include war reserve material (WRM), dormitory furniture and supplies, spill response supplies, visitor officer/airmen quarters furniture and supplies, military supplies and mission essential materials used by USCENTCOM and USSOCOM. The organizations currently identified as needing new warehouse space include 6th Medical Group (6 MDG), 6th Logistics Readiness Squadron (6 LRS), 6th Force Support Squadron (6 FSS), and the 6th Civil Engineer Squadron (6 CES). These organizations currently store materials and supplies at several small buildings scattered around the base. The current warehouses for 6 FSS (building 1090) and 6 CES (building 1092) are proposed to be demolished to provide additional space for the new United States Special Operations Command Central (SOCCENT) complex. USCENTCOM and USSOCOM have also indicated their intention to construct storage facilities at the site in the future. Construction of the new warehouse complex would permit consolidation of the various storage areas and would keep supplies and equipment in a central, accessible location. In addition, the enclosed warehouse would provide better protection and security for the organizations' supplies and equipment.

Selection Criteria

According to the MacDill AFB General Plan the new warehouse complex is required to be located in an area designated as industrial, away from administrative facilities, and fit into the long-range development plans for the base. The site must be located outside any planned or future expansion of the Combatant Commands or AMC's future development plans. The warehouse complex must be secure to prohibit theft of the material and equipment that would be stored in the facilities and be able to comply with Antiterrorism/Force Protection standards. The site for the new warehouse complex must be sufficiently sized (approximately 160,000 square feet) for up to eight warehouses to meet current and future needs of multiple organizations.

1.3 LOCATION OF PROPOSED ACTION

The Proposed Action would take place at MacDill AFB, located in Tampa, Florida. The Base occupies approximately 5,630 acres and is in Hillsborough County adjacent to the City of Tampa, at the southern tip of the Interbay Peninsula (Figure 1-1). The Base is surrounded on

three sides by Tampa Bay and Hillsborough Bay, and is bordered on the north by development within the City of Tampa. The site proposed for construction of the new warehouse complex is located on the western portion of the base north of North Boundary Road, east of the Defense Fuels Supply Point (DFSP) and north of the Defense Reutilization Marketing Office (DRMO) (Figure 1-2). The complex will house up to eight warehouses (Figure 1-3).

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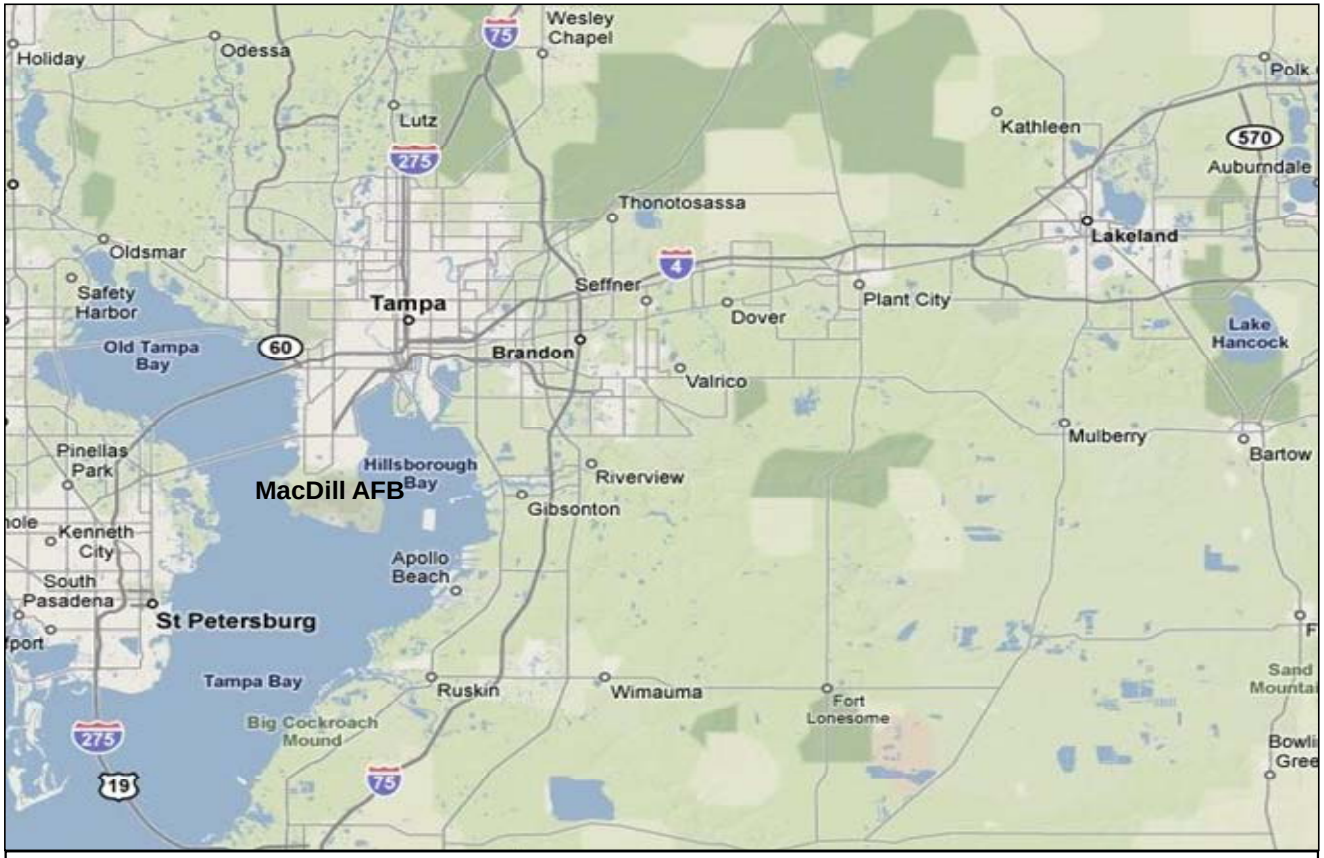

Figure 1-1

Location Map
MacDill AFB, Florida

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Figure 1-2

Site Location
MacDill AFB, Florida

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Figure 1-3

WarehouseComplex
MacDill AFB, Florida

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1.4 THE SCOPE OF THE ENVIRONMENTAL REVIEW

This EA identifies, describes, and evaluates potential environmental impacts associated with implementation of the Proposed Action and alternatives to the Proposed Action. The EA includes an analysis of the impacts of the Proposed Action and the no action alternative.

1.4.1 Issues Eliminated from Further Analysis

Based on the scope of the Proposed Action, and the No Action Alternative, as well as preliminary analyses, the Air Force eliminated the following issues from further analysis.

Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies analyze the impacts of federally directed or funded undertakings on historic properties. According to the MacDill AFB Integrated Cultural Resources Management Plan, dated September 2006, no significant cultural resources including archaeological sites or historic structures are located in the vicinity of the Proposed Action. In accordance with Section 106 of the National Historic Preservation Act, consultation with the State Historic Preservation Office (SHPO) has been accomplished to confirm that historic resources would not be impacted by the Proposed Action (Appendix D). Consequently, the Air Force excluded cultural resources from any further analysis.

If any work not included as part of the Proposed Action or Alternatives put forward in this EA is required in the future, these plans must be coordinated with 6 CES/CEV prior to their approval and implementation.

Airspace/Airfield Operations and Bird-Aircraft Strike Hazard

The Proposed Action or Alternatives would not have an impact on airspace/airfield operations or bird-aircraft strike hazard. Therefore, the Air Force excluded airspace/airfield operations or bird-aircraft strike hazard from any further analysis.

Land Use

The land use at the proposed site is industrial as noted in the General Plan. The Proposed Action would not affect land use at the project site because the new warehouse complex is classified as industrial. The Air Force did not conduct further analysis for potential land use impacts.

Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, assures that federal agencies focus attention on the potential for a proposed federal action to cause disproportionately high and adverse health effects on minority populations or low-income populations. Preliminary analysis showed that no environmental justice concern areas of low-income and/or minority populations were located immediately adjacent to the proposed site. The vicinity of the project site is unimproved military property. The closest residential areas are roughly a quarter mile away from the Proposed Action site. As described in the Installation Development Environmental Assessment for MacDill AFB, the 2000 Census evaluated the 12 census tracts that are located adjacent to the base fenceline. Tracts 70 and 72, adjacent to the northwestern boundary of the base, were identified as having the highest ethnic populations (24.4% and 28.6%, respectively) and the lowest per capita incomes of the 12 tracts evaluated.

To insure compliance with EO 12898, ethnicity and poverty status in areas adjacent to the base were examined and compared to regional and state statistics to determine if minority or low-income groups could be disproportionately affected by the Proposed Action. The environment around MacDill AFB is influenced by USAF operations, land management practices, vehicle traffic, and emissions sources outside the base. Increased traffic from construction activities would affect local air quality, but the impacts would be dispersed and affect area residents and base employees equally. The construction project would be performed by outside contractors with employees living within the ROI and Tampa-St. Petersburg metropolitan area. No disproportionate impacts on minority or low-income populations from the Proposed Action were identified.

In addition, EO 13045 requires that Federal agencies identify and assess environmental health and safety risks that might disproportionately affect children. The Proposed Action would not

pose any adverse or disproportionate environmental health or safety risks to children living in the vicinity of the base. The likelihood of the presence of children at construction site where the Proposed Action would occur on base is considered minimal, which further limits the potential for effects. No significant adverse effects would be expected. Therefore, the Air Force excluded environmental justice from any further analysis.

Asbestos and Lead-Based Paint

The Proposed Action does not involve the demolition of facilities containing asbestos or lead-based paint. Therefore, the Air Force excluded asbestos or lead-based paint from any further analysis.

1.4.2 Issued Studies in Detail

Preliminary analysis based on the scope of the Proposed Action and the No Action Alternative identified the following potential environmental issues warranting detailed analysis: air quality; noise; wastes, hazardous materials and stored fuel; water resources; floodplains; biological resources; socioeconomics; transportation; safety and occupational health; and geology and soils.

1.5 APPLICABLE REGULATORY REQUIREMENTS

This environmental analysis has been conducted in accordance with the President's Council on Environmental Quality (CEQ) regulations, Title 40 of the Code of Federal Regulations (CFR) §§1500-1508, as they implement the requirements of the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. §4321, et seq., and the Air Force Environmental Impact Analysis Process, as promulgated in 32 CFR Part 989. These regulations require federal agencies to analyze the potential environmental impacts of proposed actions and alternatives and to use these analyses in making decisions on a proposed action. Cumulative effects of other ongoing activities also must be assessed in combination with the Proposed Action. The CEQ was instituted to oversee federal policy in this process. The CEQ regulations declare that an EA is required to accomplish the following objectives:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI);

- Aid in an agency's compliance with NEPA when an EIS is not necessary, and facilitate preparation of an EIS when necessary.

Title 32 CFR Part 989 specifies the Department of the Air Force procedural requirements for the implementation of NEPA and preparation of the EA.

Other environmental regulatory requirements relevant to the Proposed Action and no action alternative also are identified in this EA. Regulatory requirements under the following programs among others will be assessed: Noise Control Act; Clean Air Act; Clean Water Act; National Historic Preservation Act; Endangered Species Act; Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA); and Occupational Safety and Health Act. Requirements also include compliance with Executive Order (EO) 11988, Floodplain Management; EO 11990, Protection of Wetlands; Federal Coastal Zone Management Act; and EO 12898, Environmental Justice.

1.6 COASTAL ZONE CONSISTENCY DETERMINATION

The Federal Coastal Zone Management Act (CZMA) creates a state-federal partnership to ensure the protection of coastal resources. The Federal CZMA requires each Federal agency activity within or outside the coastal zone, which affects any land or water use or natural resources of the coastal zone, to be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of the Florida Coastal Management Program (CMP). The Florida CZMA presumes that "direct Federal activities" will directly affect the coastal zone. According to the Florida CMP, "direct Federal activities" are those that "are conducted or supported by or on behalf of a Federal agency in the exercise of its statutory responsibilities, including development projects."

The Federal CZMA required Federal agencies carrying out activities subject to the Act to provide a "consistency determination" to the relevant state agency. The Federal regulations implementing the Act then require the state agency to inform the Federal agency of its agreement or disagreement with the Federal agency's consistency determination. Therefore, the Proposed Action and alternative analyzed in this EA require a consistency determination to be submitted by the U.S. Air Force to the relevant Florida agency and a response from the State of Florida of

either agreement or disagreement with that determination. The Air Force's Consistency Determination is contained in the Consistency Statement at Appendix A. This EA including the Air Force's Consistency Statement was submitted to Florida State Clearinghouse for a multi-agency review. The Florida Department of Community Affairs assembled and reviewed the comments provided by the various state and county agencies and determined that the proposed project is consistent with the Florida Coastal Management Program.

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SECTION 2.0 DETAILED DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section provides a description of the Proposed Action and alternatives to the Proposed Action including the no action alternative. The Proposed Action is to construct a new consolidated warehouse complex for multiple organizations including the 6th Medical Group (6 MDG), 6th Civil Engineer Squadron (6 CES), 6th Force Support Squadron (6 FSS), and 6th Logistics Readiness Squadron (6 LRS). Construction of the new warehouse complex would provide the 6 AMW with a single, centrally located area to store supplies and equipment. The new warehouse complex would be located in the western portion of the base north of North Boundary Road, east of the DFSP, and north of DRMO (Figure 1-1). The Proposed Action also includes demolition of a septic system and construction of a new septic system. The existing septic system is located within the footprint of the new warehouse complex and must be relocated.

The only alternative to the Proposed Action is the No Action alternative. The No Action alternative would not construct any facilities and would continue to utilize Buildings 715 for 6 MDG, 1090 for 6 FSS and 1092 for 6 CES as warehouses, although all three of these facilities are proposed for demolition.

This section specifically includes:

- A list of the environmental constraints and other selection criteria that influence selection of potential locations for implementing the Proposed Action;
- A detailed description of the Proposed Action;
- A description of the alternative considered for implementation of the Proposed Action; and
- A matrix comparing the environmental effects of the Proposed Action and No Action alternative.

2.1 DETAILED DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action is construction of a consolidated warehouse complex for use by the 6 AMW and others. The Proposed Action would construct up to eight warehouses on concrete slabs, with concrete driveways for each warehouse, an asphalt road connecting the driveways, and a stormwater collection pond(s). The 6 AMW currently stores their equipment and supplies at various locations throughout the base. Over the years, base organizations have been using whatever buildings are empty and available for the storage of equipment and supplies. This situation is highly inefficient and has caused confusion and problems as a result of non-consolidated storage locations. Construction of a consolidated warehouse complex with up to eight buildings for the 6 AMW and tenant organizations would greatly improve the current storage situation for the base.

The proposed warehouse complex would be constructed in the western portion of the base in an industrial area just north of the North Boundary Road, adjacent to DFSP and DRMO. The proposed warehouse complex would be constructed in an undeveloped, grassy parcel just east and adjacent to DFSP. This location meets the selection criteria discussed in Section 1.2.

Concrete driveways would be constructed between the new warehouses and a new asphalt road that runs between the warehouses (Figure 1-3). The project would result in the installation of roughly 60,000 square feet (sf) of new impervious surface and no existing impervious surfaces would be removed under the Proposed Action. To compensate for the increased impervious surfaces, an on-site stormwater retention pond would be constructed to collect stormwater runoff from the facilities and other impervious surfaces. The stormwater retention pond allows collected stormwater to slowly infiltrate back into the ground, recharging the surficial aquifer. The stormwater retention pond would be designed and sized to meet the requirements of the Southwest Florida Water Management District. Prior to disturbing the site, a silt fence would be installed around the construction site to reduce erosion resulting from wind and surface water runoff. Once the facility has been constructed and landscaping has been installed, any remaining disturbed areas of the site would be covered with a layer of sod.

The remainder of the site would be maintained as an open grass field. The project site, including building footprints, paved areas, stormwater retention pond, and green spaces cover roughly 3.7 acres (160,000 square feet). A concrete driveway would connect the entranceway to the adjacent asphalt road at each warehouse. The access point would allow vehicles to drive into the building to pick-up or drop-off supplies and equipment. Lockable, three-foot wide metal doors would be located next to the large roll-up doors. A small area inside each warehouse may be enclosed to create a restroom area. The restroom would include a sink and a toilet.

Each proposed warehouse would be constructed on a new concrete slab measuring approximately 48 feet by 100 feet for a total of 4,800 square feet. Each facility would be constructed using steel I-beam for the interior frame or skeleton. The walls would be constructed using two-inch thick textured wall panels. The roof would be a VSR^{TM} roof system with a minimum R-19 insulation rating. Each facility would have an 18-foot wide roll-up metal door at one end of the facility. Each facility would be designed to withstand 130 mile per hour wind loads in accordance with current building standards. Each new facility would comply with DoD minimum antiterrorism construction standards. A typical elevation view of a similar project is presented in **Figure 2-1**.

The proposed new facility would be located within the 100-year floodplain. The ground surface elevation at the site is approximately 4.5 feet above mean sea level (amsl). Clean fill material would be used to elevate the ground surface beneath the proposed new facility. The ground surface would be raised so that the finish floor elevation of the new facility would be at least 11.5 feet amsl. This is roughly 18-inches above the 100-year floodplain elevation for this portion of the base.

The Proposed Action also includes the demolition of an existing septic system and drainfield that services Building 1102 and construction of a new septic system and drainfield. The new system would be constructed prior to the demolition of the existing system. All connections to the existing septic system would be connected to the new system prior to demolition. The existing system would be evacuated using a pumper truck prior to demolition. The demolition of the septic system and drainfield would be accomplished by physically removing the structures using construction equipment such as front-end loader, bulldozer and track-hoe. The excavated

material from the septic system and drainfield would be loaded into large roll-off containers for disposal off-base at a construction and demolition debris landfill. Silt fence would be installed around the demolition site to reduce erosion resulting from wind and surface water runoff. Once the drainfield has been demolished and the material removed from the site, the land would be graded smooth and covered with a layer of sod. The sod would greatly reduce the potential for erosion by wind and surface water runoff.

2.2 ALTERNATIVES INITIALLY CONSIDERED BUT ELIMINATED FROM FURTHER STUDY

The EIAP process requires the Air Force to analyze reasonable alternatives to the Proposed Action and the No Action Alternative. Reasonable alternatives are those that "meet the underlying purpose and need for the Proposed Action and that would cause a reasonable person to inquire further before choosing a particular course of action" (32 CFR 989). Alternatives may be eliminated from detailed analysis based on operational, technical, or environmental standards that are applicable to the project. Two additional alternatives were initially considered but following a brief evaluation were eliminated from further study. The two alternatives considered were: 1) Construct a new warehouse complex outside the 100-year coastal floodplain; and 2) Lease or purchase an Off-Base Warehouse Facility that is outside the 100-year floodplain. The following sections discuss each alternative and why they were eliminated from further study.

2.2.1 New Warehouse Complex Outside the 100-year Floodplain

Construction of a new warehouse complex on-base outside of the 100-year floodplain was considered but determined to be impracticable due to the limited amount of land on base outside the 100-year floodplain. Approximately 80 percent of the landmass at MacDill lies within the 100-year coastal floodplain. Approximately 15 percent of the land available on base but outside the 100-year floodplain is designated for airfield operations and associated support facilities. Therefore, approximately 95 percent of the landmass at MacDill is potentially restricted from development because it is either in the 100-year coastal floodplain or within the area designated for airfield operations. The remaining five percent (~282 acres) of landmass at MacDill that is outside of the floodplain and airfield areas is already heavily developed, primarily with

administrative facilities, leaving almost no land available for future construction. A depiction of the 100-year Floodplain along with other land-use constraints on MacDill AFB is presented in **Figure 2-2**.

One site for the warehouse district on MacDill AFB and outside of the 100-year floodplain was initially considered. The site is an open parcel just south of the Tanker Way Gate in the northwestern corner of the base (**Figure 2-3**). The Port Tampa Gate currently process commercial traffic, however, this gate is planned for an expansion to allow personal operated vehicle entry and egress. Upon completion of the gate expansion, the area remaining for construction of the warehouse complex is only 80,000 square feet. This is approximately half the size needed for the warehouse complex. Therefore, this parcel is not practicable.

Another site on the northeast corner of Zemke Avenue and Kingfisher Street was identified as a potential location for the proposed warehouse complex (**Figure 2-4**). The parcel can be secured and is sufficiently sized if Building 1066 is demolished. However, this entire parcel has been designated for construction of the mission support facility which is currently being designed and is planned for construction in 2011. Additionally, construction of a warehouse district in this area of the base does not fit into the long-range development plans for MacDill. It does not meet the selection criteria discussed in Section 1.2. Therefore, this parcel is not practicable.

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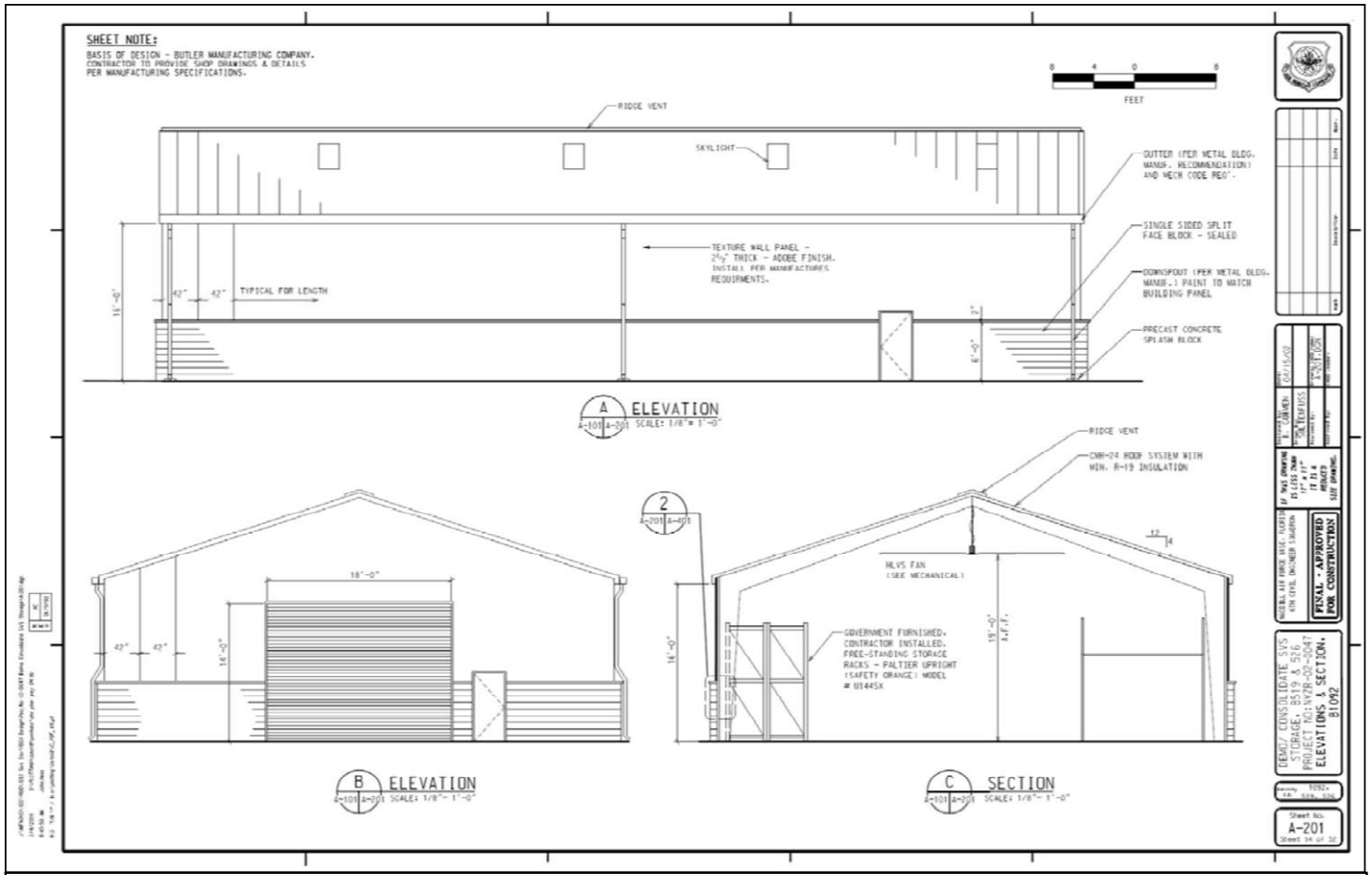

Figure 2-1

Typical Elevation View of Similar Project
MacDill AFB, Florida

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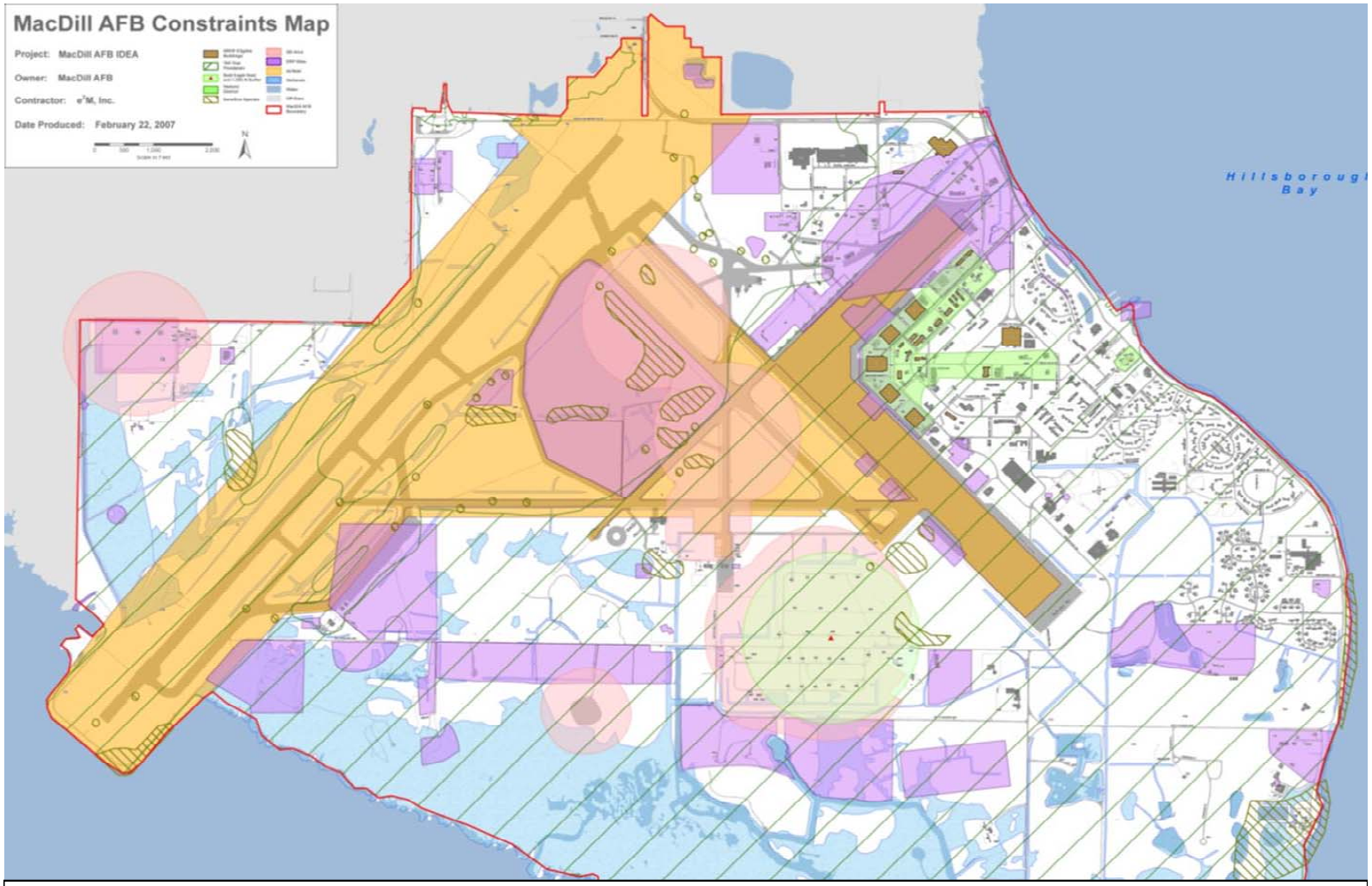

Figure 2-2

Constraints Map
MacDill AFB, Florida

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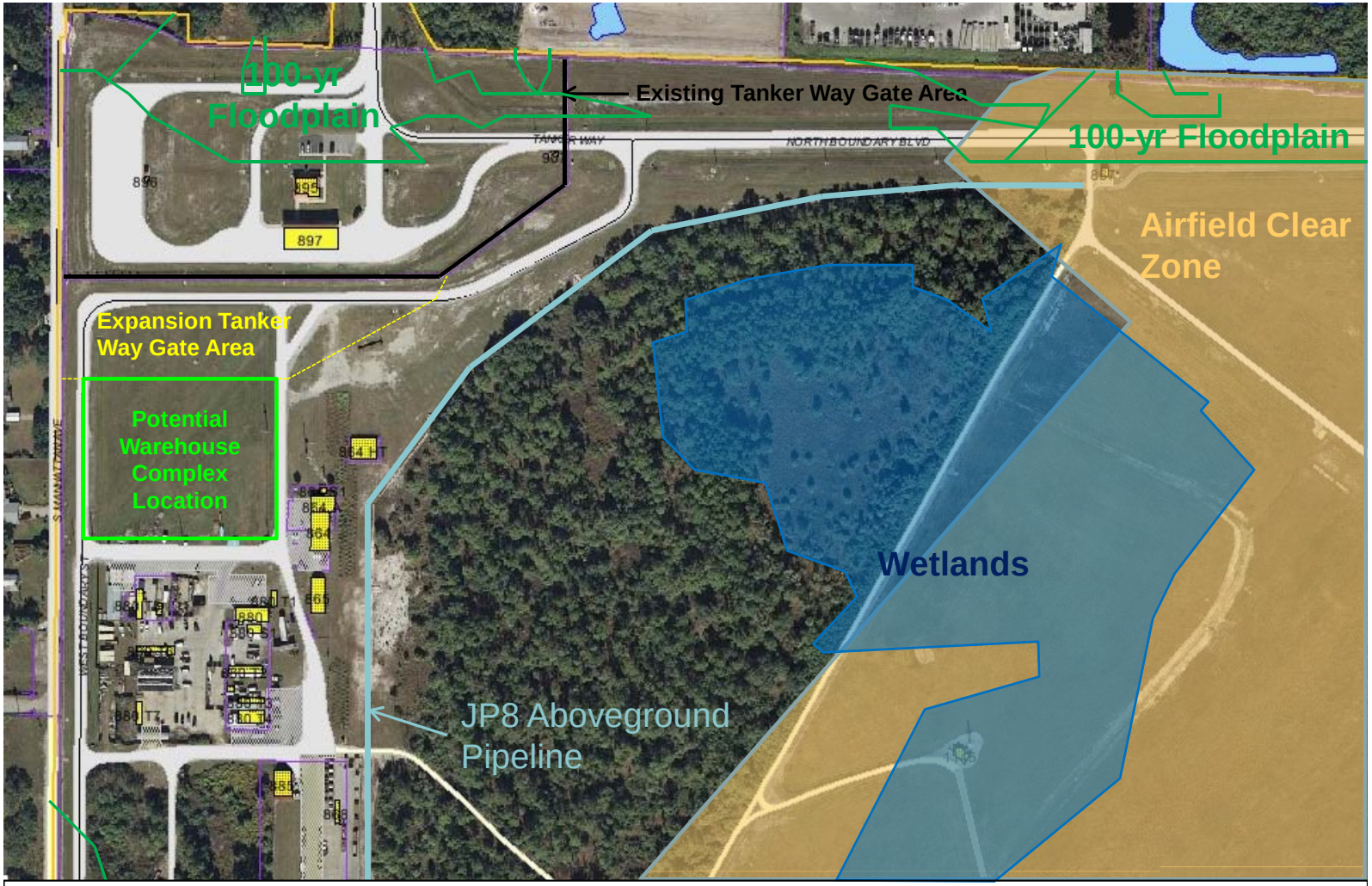

Figure 2-3

Tanker Way Gate Potential Site Location
MacDill AFB, Florida

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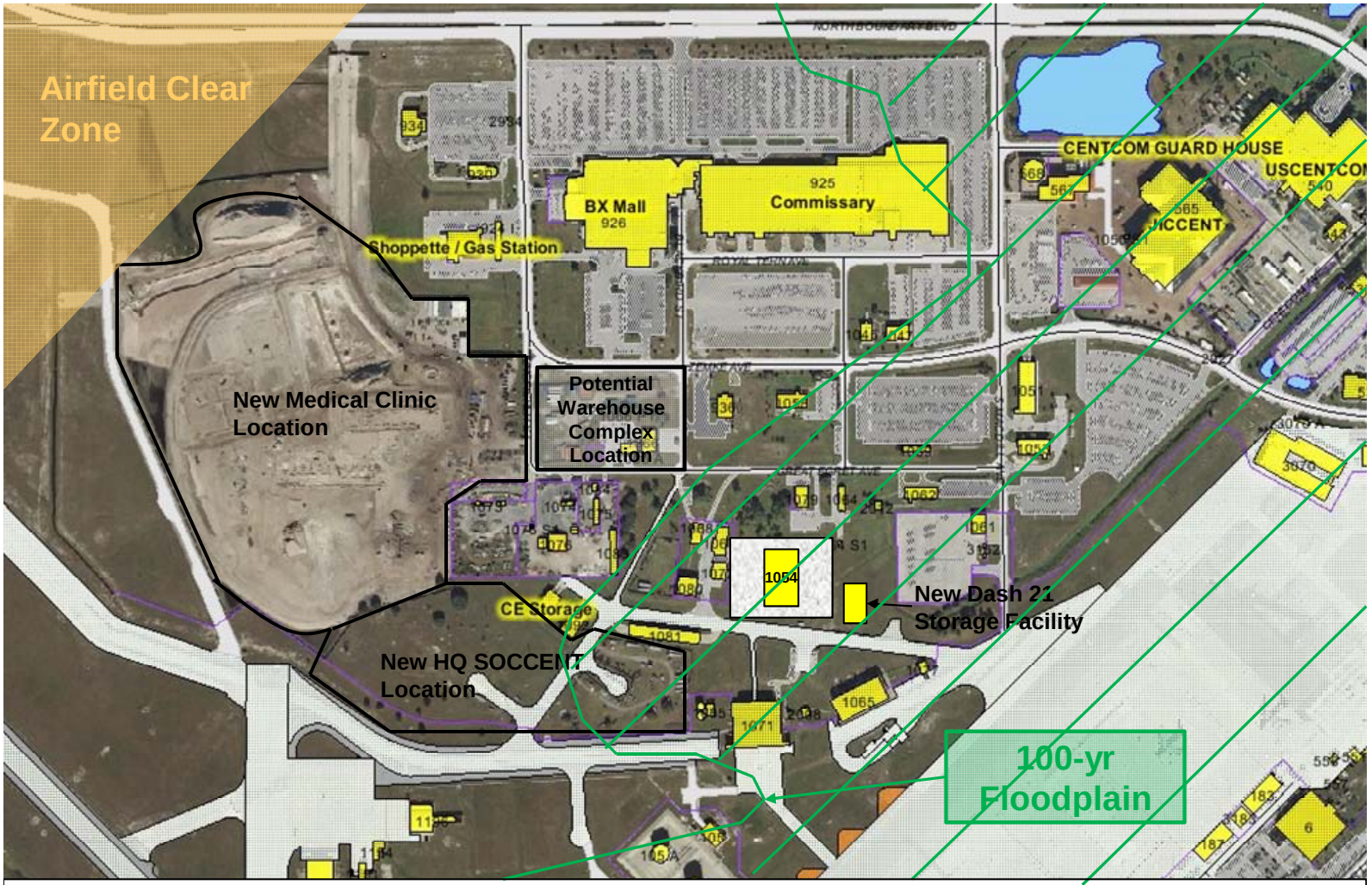

Figure 2-4

Zemke Avenue Potential Site Location
MacDill AFB, Florida

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2.2.2 Leasing or Purchasing an Off-Base Warehouse

Leasing or purchasing warehouse space in a local off-base support facility was considered and determined to be impracticable for communications, security, response times, and, transportation reasons. The materials stored in the warehouse complex include, but are not limited to, medical war reserve material (WRM) for 6 MDG, spill response supplies for 6 CES, dormitory furniture and supplies for 6 CES, and visitor officer/airmen quarters furniture and supplies for 6 FSS. Planned warehouses for USCENTCOM and USSOCOM would store mission essential equipment and supplies for these organizations.

WRM is material required in addition to primary operating stocks and deployment (mobility) equipment necessary to attain objectives in the scenarios approved for sustainability planning in the Defense Planning Guidance. Medical WRM supports the capability of a medical unit to respond rapidly and effectively in a contingency situation. WRM is stored and marked to achieve and maintain a continuous state of readiness, and to make assets readily identifiable and to prevent inadvertent use. The ability to rapidly identify, secure and deploy medical WRM during an exercise or real world situation is essential for permitting the Medical Group to maintain military readiness. WRM must be brought out of stored configuration and be ready to use to meet established response times for wartime aircraft activity. Consequently, WRM must be stored at a location that can be accessed quickly and easily. Communications security is critical to the success of the 6 MDG mission. The 6 MDG requires restricted computer access at the warehouse to maintain the WRM assets and prepare cargo for out-shipment. Security outside the warehouse, in the marshalling area is also critical since the WRM assets can be called for at any time of the day or night. Travel distance to and from the warehouse district must also be considered since the 6th Logistics Readiness Squadron (6 LRS) must be willing and able to provide transportation to and from the warehouse during exercises and real world contingencies. 6 LRS resources are currently limited and their operational focus is on base events which restricts their ability to transport material from an off base location. Furthermore, during real world contingencies when force protection measures are fully employed at the base, the transportation of the WRM assets from off-base to on-base would be severely restricted.

The spill response supplies are needed and used for responding to petroleum and other hazardous materials spills on-base. The spill response supplies need to be located on-base to provide timely response and clean up of the spills. Failure to provide a timely response to the spills could result in the petroleum and other hazardous materials reaching navigable waters. MacDill AFB is considered a substantial harm facility in accordance with 40 CFR 112 and as such has prepared a Facility Response Plan. In accordance with 40 CFR 112 and the Facility Response Plan, the base must have the spill response supplies immediately available.

The 6 CES dormitory supplies and 6 FSS visitor officer/airmen quarters supplies are daily use items which typically require daily trips to and from their respective warehouses. Having to travel to and from an off-base warehouse would result in increased travel time and operational expenses, and would severely restrict the 6 CES and 6 FSS's ability to serve their customers.

The closest available warehouse space of sufficient size which is located outside of the 100-year floodplain is located approximately 15 miles (at least 30 minutes) from the base. Typical lease rates for warehouse space in the Tampa Bay area range from $4.00 to $8.00 per square foot monthly. The combined total need for warehouse space for the Proposed Action is 38,400 square feet, therefore,the annual lease cost would range from $1,843,200 to $3,686,400. The cost for all eight warehouses is estimated to be $6.4M. The payback excluding the additional costs for, utilities, maintenance and upkeep of the property, transportation costs, and renovations for AT/FP would range from 3.4 to 1.7 years.

The closest warehouse space available for purchase of sufficient size and located outside of the 100-year floodplain is located approximately 15 miles (at least 30 minutes) from the base. Typical purchase prices for a warehouse of this size in the Tampa Bay area ranges from $2.25M to $3.5M. Augmentation of the warehouse space to meet current force protection requirements would result in additional expenses following purchase of the warehouse. Also, annual costs for utilities, maintenance and upkeep of the property would also be incurred. In summary, storing materials and supplies at an off-base location would require military and civilian personnel to travel off base, taking them away from their jobs for a longer period, increasing off-base traffic, creating unnecessary traffic at the base security gates, and consuming additional gasoline needlessly creating additional criteria and greenhouse gas emissions. The increased logistics for

storing, obtaining, and using the supplies diminishes the feasibility of the off-base warehouse option. Additionally, the leased facility and parking area would require additional renovations to meet the current DoD Force Protection (antiterrorism) standards, found in *Unified Facilities Criteria, DoD Minimum Antiterrorism Standards for Buildings* (NAVFAC, July 2002) and AFI 31-210, *The Air Force Antiterrorism/Force Protection Program Standards.* Leasing or purchasing warehouse space at an off-base location outside the floodplain is therefore not practicable.

2.3 DESCRIPTION OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the warehouse complex would not be constructed and the septic system and drainfield would not be demolished. Under this alternative the 6 AMW would continue to utilize unassigned facility space at scatted locations throughout the base to store equipment and supplies including Buildings 715, 1090, and 1092, which are proposed for demolition. Upon demolition of each of these facilities, the base would relocate the stored materials to any other unassigned facility space available at the time.

2.4 IDENTIFICATION OF THE ENVRIONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is construction of the new warehouse complex including demolition of the septic system and drainfield. The action is the preferred alternative since construction of the new facility complex is not expected to negatively impact the environment.

2.5 OTHER ACTIVITIES IN THE AREA

No other construction or demolition activities are currently proposed to occur in the vicinity of the Proposed Action site. Construction of the eight warehouses, however, is proposed to occur on and off over a four year period, and there is a potential that additional construction projects for this portion of the base could be developed in the future.

2.6 COMPARISON OF ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION AND NO ACTION ALTERNATIVE

Table 2.6-1 is a summary of the potential environmental impacts of the Proposed Action and no action alternative.

Table 2.6-1 Comparison of Environmental Consequences

Environmental Resources	Proposed Action	No Action Alternative
Air Quality	Short-term – *Minor Adverse* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Noise	Short-term – *Minor Adverse* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Hazardous Materials/Wastes/Stored Fuels	Short-term – *Minor Adverse* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Water Resources	Short-term – *Minor Adverse* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Floodplains	Short-term – *Minor Adverse* Long-term – *Minor Adverse*	Short-term – No Impact Long-term – No Impact
Biological Resources	Short-term – No Impact Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Socioeconomics	Short-term – *Minor Positive* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Transportation	Short-term – No Impact Long-term – *Minor Positive*	Short-term – No Impact Long-term – No Impact
Safety and Occupational Health	Short-term – No Impact Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Geology and Soils	Short-term – *Minor Adverse* Long-term – No Impact	Short-term – No Impact Long-term – No Impact
Indirect and Cumulative Impacts	Short-term – No Impact Long-term – No Impact	Short-term – No Impact Long-term – No Impact

SECTION 3.0 AFFECTED ENVIRONMENT

This section describes the characteristics of the existing natural and man-made environment that could be affected by implementation of the Proposed Action including the No Action alternative. A summary of the overall mission objectives of MacDill AFB is also provided. This section establishes the basis for assessing impacts of the Proposed Action and the No Action alternative on the affected environment provided in Section 4.0.

First established in 1939 as an Army airfield, MacDill became an Air Force Base in 1948. The Base has undergone several mission changes and played a vital role in training and strategic defense. Today, the host unit at MacDill AFB is the 6th Air Mobility Wing (AMW). The Base is home to several key tenant units, including USCENTCOM, USSOCOM, and the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce (DOC).

MacDill AFB comprises 5,630 acres. The installation elevation ranges from sea level to approximately 15 feet above mean sea level (MSL). Much of the Base is less than five feet above MSL, and wetland areas are common, especially mangrove wetlands.

The Base has one active runway (04-22) and an inactive runway that is used as a taxiway. MacDill AFB airfield facilities provide the capability to accommodate any aircraft in service with the United States government. The Base contains more than 500 buildings, including administrative and support facilities, a hospital and dental clinic, military housing, and recreation areas.

MacDill AFB is located in Hillsborough County at the southern tip of the Interbay Peninsula. The Base is surrounded on three sides by Tampa Bay and Hillsborough Bay and is bordered on the north by development within the City of Tampa. Land uses adjacent to the Base are a mix of single-family residential, light commercial and industrial designations.

The area has a humid, subtropical climate characterized by long, hot summers and short, mild winters. The average annual temperature is approximately 73 degrees Fahrenheit (°F) with average minimum and maximum temperatures being approximately 63°F and 82°F, respectively. The rainy season generally occurs from May through September, with the dry season occurring during late fall and winter. Annual rainfall averages approximately 44 inches.

3.1 AIR QUALITY

3.1.1 Air Pollutants and Regulations

The CAA of 1970 directed the United States Environmental Protection Agency (USEPA) to develop, implement, and enforce strong environmental regulations that would ensure cleaner air for all Americans. In order to protect public health and welfare, the USEPA developed concentration-based standards called National Ambient Air Quality Standards (NAAQS). The USEPA established both primary and secondary NAAQS under the provisions of the CAA. Primary standards define levels of air quality necessary to protect public health with an adequate margin of safety. Secondary standards define air quality levels necessary to protect public welfare (i.e., soils, vegetation, property, and wildlife) from any known or anticipated adverse effects. NAAQS currently are established for six air pollutants (known as criteria air pollutants) including carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O_3), sulfur oxides (SO_x), measured as sulfur dioxide [SO_2]), lead (Pb), and particulate matter. Particulate matter standards incorporate two particulate classes: (1) particulate matter with an aerodynamic diameter less than or equal to 10 micrometers [PM_{10}] and (2) particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers [$PM_{2.5}$].

The CAA does not make the NAAQS directly enforceable; however, the CAA does require each state to promulgate a State Implementation Plan (SIP) that provides for implementation, maintenance, and enforcement of the NAAQS in each air quality control region (AQCR) in the state. Title I of the CAA requires that all Federal facilities conform to the provisions of the SIP. The CAA Amendments of 1990 are currently the comprehensive Federal legislation regulating the prevention and control of air pollution. Title I of the CAA requires Federal actions to conform to the provisions of the approved SIP, which is developed and maintained by the Florida Department of Environmental Protection (FDEP) under Chapter 62 of the FAC. Title V of the CAA requires identification and characterization of emissions from all minor sources, including aircraft maintenance facilities, fuel storage tanks, and emissions from aircraft and motor vehicles.

The USEPA classifies the air quality within an AQCR according to whether or not the concentration of criteria air pollutants in the atmosphere exceeds primary or secondary NAAQS. All areas within each AQCR are assigned a designation of attainment, nonattainment, maintenance, unclassifiable attainment, or not designated attainment for each criteria air pollutant. An attainment designation indicates that the air quality within an area is as good as or better than the NAAQS. Nonattainment indicates that air quality within a specific geographical area exceeds applicable NAAQS. Maintenance indicates that an area was previously designated nonattainment but is now attainment. Unclassifiable and not designated indicate that the air quality cannot be or has not been classified on the basis of available information as meeting or not meeting the NAAQS. Areas designated as unclassifiable or not designated are treated as attainment (CAA, 1990).

As promulgated in the FAC 62-204.240, the State of Florida has adopted each of the NAAQS as the Florida standards except for SO_2, for which state standards are more restrictive than the NAAQS, as listed in **Table 3.1.1**. The standards are reported in parts per million (ppm) or milligram per cubic meter (mg/m^3).

Table 3.1-1 National and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	Primary NAAQS[a,b,c]	Secondary NAAQS[a,b,d]	Florida Standards[a,b,e]
Carbon Monoxide	8-hour 1-hour	9 ppm ($10 mg/m^3$) 35 ppm ($40 mg/m^3$)	No standard No standard	9 ppm ($10 mg/m^3$) 35 ppm ($40 mg/m^3$)
Lead	Quarterly	$1.5 \mu g/m^3$	$1.5 \mu g/m^3$	$1.5 \mu g/m^3$
Nitrogen Oxides	Annual	0.0543 ppm ($100 \mu g/m^3$)	0.0543 ppm ($100 \mu g/m^3$)	0.0543 ppm ($100 \mu g/m^3$)
Ozone	1 hour[e]	0.12 ppm ($235 \mu g/m^3$)	0.12 ppm ($235 \mu g/m^3$)	0.12 ppm ($235 \mu g/m^3$)
PM_{10}[e]	Annual 24-hour	$50 \mu g/m^3$ $150 \mu g/m^3$	$50 \mu g/m^3$ $150 \mu g/m^3$	$50 \mu g/m^3$ $150 \mu g/m^3$

Criteria Pollutant	Averaging Time	Primary NAAQS[a,b,c]	Secondary NAAQS[a,b,d]	Florida Standards[a,b,e]
Sulfur Oxides (measured as SO_2)	Annual 24-hour 3-hour	0.03 ppm (80 μg/m^3) 0.14 ppm (365 μg/m^3) No standard	No standard No standard 0.50 ppm (1,300 μg/m^3)	0.02 ppm (60 μg/m^3) 0.10 ppm (260 μg/m^3) 0.50 ppm (1300 μg/m^3)

ppm- parts per million

PM_{10} Particles with aerodynamic diameters less than or equal to a nominal 10 micrometers

μg/m^3 microgram per cubic meter

[a] The 8-hour primary and secondary ambient air quality standards are met at a monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm.

[b] The NAAQS and Florida standards are based on standard temperature of 0 degrees Celsius and standard pressure of 760 millimeters of mercury.

[c] National Primary Standards: The levels of air quality necessary to protect the public health with an adequate margin of safety. Each state must attain the primary standards no later than three years after the SIP is approved by the USEPA.

[d] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the SIP is approved by the USEPA.

[e] $PM_{2.5}$ Standard is in effect, but $PM_{2.5}$ SIPs are not anticipated to be final until mid-2008.

The General Conformity Rule requires that any Federal action meet the requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not result in the following: cause a new violation of the NAAQS, contribute to an increase in the frequency or severity of violations of NAAQS, or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS.

The General Conformity Rule applies only to actions in nonattainment or maintenance areas and considers both direct and indirect emissions. The rule applies only to Federal actions that are considered "regionally significant" or where the total emissions from the action meet or exceed the *de minimis* thresholds presented in 40 CFR 93.153. An action is regionally significant when the total nonattainment pollutant emissions exceed 10% of the AQCR's total emissions inventory

for that nonattainment pollutant. If a Federal action does not meet or exceed the *de minimis* thresholds and is not considered regionally significant, then a full Conformity Determination is not required.

MacDill AFB is located in Hillsborough County within the West Central Florida Intrastate Air Quality Control Region (AQCR), as defined in 40 CFR 81.96. The Environmental Protection Commission (EPC) of Hillsborough County has received full air permitted delegation from the State. This allows the EPC, exclusively, to conduct permitting determinations, process applications, and issue air pollution permits for most facilities. According to 40 CFR 81.310, Hillsborough County is in attainment or unclassifiable for all criteria pollutants; therefore, the Conformity Rule does not apply to MacDill AFB.

Title V of the CAA requires state and local agencies to permit major stationary sources. A major stationary source is a facility (i.e., plant, base, or activity) that can emit more than 100 tons per year (tpy) of any one criteria air pollutant, 10 tpy of a hazardous air pollutant, or 25 tpy of any combination of hazardous air pollutants. However, lower pollutant-specific "major source" permitting thresholds apply in nonattainment areas. For example, the Title V permitting threshold for an "extreme" O_3 nonattainment area is 10 tpy of potential Volatile Organic Compound (VOC) or NO_x emissions. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and monitor their impact on air quality.

Federal Prevention of Significant Deterioration (PSD) regulations also define air pollutant emissions from proposed major stationary sources or modifications to be "significant" if (1) a proposed project is within 10 kilometers of any Class I area and (2) regulated pollutant emissions would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I area of 1.0 micrograms per cubic meter ($\mu g/m^3$) or more (40 CFR 52.21(b)(23)(iii)). PSD regulations also define ambient air increments, limiting the allowable increases to any area's baseline air contaminant concentrations, based on the area's designation as Class I, II, or III (40 CFR 52.21(c)). MacDill AFB is not within 10 kilometers of a Class I area; therefore, the PSD regulations do not apply.

3.1.2 Baseline Air Emissions

An air emissions inventory is an estimate of total mass emission of pollutants generated from a source or sources over a period of time, typically a year. The quantity of air pollutants is generally measured in pounds per year or tons per year (tpy). Emission sources may be categorized as point, area, or mobile emission sources. Point sources are stationary sources which can be identified by name and operated at a fixed location. Area sources are stationary sources of emissions too small to track individually, such as gas stations, small office buildings, or open burning associated with agriculture, forest management, and land clearing activities. Mobile sources are vehicles or equipment with gasoline or diesel engines, e.g., an airplane or a ship. Mobile sources are divided into two types, on-road and non-road. On-road mobile sources are vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles. Accurate air emissions inventories are needed for estimating the relationship between emissions sources and air quality. The most recent (2002) emission inventory data from the USEPA AirData web site (http://www.epa.gov/air/data/geosel.html) for Hillsborough County, which includes MacDill AFB (USEPA, 2002) are provided in **Table 3.1.2** and include point, area, and mobile data.

Table 3.1-2 Estimated 2002 Baseline Emissions Inventory, Hillsborough County, Florida

Criteria Air Pollutant	CO (tpy)	VOC (tpy)	SO_x (tpy)	NO_x (tpy)	PM_{10} (tpy)	Pb (tpy)
Point Sources	2,899	56,390	7,434	5,318	65,294	1,553
Area Sources	3,619	1,801	14,944	1,904	596	33,326
Stationary Total	**6,517**	**58,191**	**22,379**	**7,221**	**65,890**	**34,880**
On-road Mobile	228,413	25,546	706	506	1,283	22,321
Non-road Mobile	94,881	21,593	1,291	1,243	2,597	8,341
Mobile Total	**323,294**	**47,139**	**1,997**	**1,749**	**3,880**	**30,662**
Grand Total	**329,811**	**105,330**	**24,376**	**8,970**	**69,770**	**65,542**

1 Source: Hillsborough County data summarized from USEPA's AirData for 2002 (http://www.epa.gov/air/data/index.html)

Radon gas. The level at which the USEPA recommends consideration of radon mitigation measures is 4 picocuries per liter (pCi/L). According to a sampling report obtained from 6 AMDS/SGPB, radon is not a concern at MacDill AFB (USAF, 1987). All samples analyzed were below the USEPA target levels of 4 pCi/L.

3.2 NOISE

The meaning of noise for this analysis is undesirable sound that interferes with speech communication and hearing, or is otherwise annoying (unwanted sound). Under certain conditions, noise may cause hearing loss, interfere with human activities at home and work, and may affect people's health and well-being in various ways. Community noise levels usually change continuously during the day, and also exhibit a daily, weekly, and yearly pattern.

The day-night average sound level (DNL) developed to evaluate the total daily community noise environment applies here. In June 1980, the Federal Interagency Committee on Urban Noise published guidelines relating DNL values to compatible land uses. This committee was composed of representatives from the U.S. Departments of Defense, Transportation, and Housing and Urban Development; the USEPA; and the Veterans Administration. Since their issuance, Federal agencies have generally adopted their guidelines for noise analysis. Most agencies have identified 65 dB DNL as a criterion that protects those most affected by noise and that can often be achieved on a practical basis. Base activities that have the highest potential source of noise impacts are the aircraft/airspace operations. The Air Installation Compatible Use Zone (AICUZ) Study (2008) plotted the day-night average sound level (DNL) from 65 to 80 dB for a typical busy day at MacDill. The DNL contours reflect the aircraft operations at MacDill AFB. The DNL 65 dB contour covers the main runway, and extends about one mile southwest over Tampa Bay, and about 1.5 miles northeast over Hillsborough Bay. The proposed warehouse complex is just inside the 65 dB contour west of the runway.

Figure 3-1: Noise contours determined by the 2008 ACUIZ Study for the 'typical' busy day at MacDill AFB.

3.3 HAZARDOUS MATERIALS AND WASTES, AND STORED FUEL

3.3.1 Hazardous Materials

Approximately 105 operations base-wide use hazardous materials. Hazardous materials on-base include various organic solvents, chlorine, freon, paints, thinners, oils, lubricants, compressed gases, pesticides, herbicides, nitrates, and chromates. A detailed tracking and accounting system is in place to identify potentially hazardous materials and to ensure that Base organizations are approved to use specific hazardous materials. The Base is following Air Force guidelines to identify and eliminate the use of ozone-depleting chemicals.

3.3.2 Wastes

There are two classifications of wastes generated at MacDill AFB: nonhazardous solid waste and hazardous waste. Nearly 80 percent of the solid waste generated from various residential and industrial sources is incinerated as an energy source at the City of Tampa incineration facility off base. The remainder is disposed at Hillsborough County landfill facilities. Curbside recycling is available in Military Family Housing areas at the Base and cardboard, paper, and aluminum recycling is conducted throughout the Base.

Hazardous wastes generated at MacDill AFB include solvents, fuels, lubricants, stripping materials, used oils, waste paint-related materials, and other miscellaneous wastes. The responsibility for managing hazardous waste lies with the generating organization and 6 CES/CEV. Wastes come from approximately 50 locations throughout the Base and are managed at satellite accumulation points base-wide. Satellite accumulation points are located at or near the points of hazardous waste generation and are operated in accordance with environmental regulations and Air Force guidelines. The former hazardous waste storage facility at Building 1115 is now in closure status under RCRA and is currently classified as a 90-day accumulation point and is operated by 6 CES/CEV. At a 90-day accumulation point, hazardous waste can be accumulated for up to 90 days before it is disposed of. The Defense Reutilization and Marketing Office (DRMO) is responsible for the sale, reclamation, or disposal of hazardous materials and wastes generated at MacDill AFB.

Used oil is accumulated at sites around the Base and is periodically picked up by an outside contractor for recycling. Waste antifreeze, tires, batteries, and fluorescent bulbs are also picked up by outside contractors for recycling. These types of wastes, while requiring special handling procedures, are not considered hazardous.

3.3.3 Environmental Restoration Program

The Environmental Restoration Program (ERP), formerly known as the Installation Restoration Program, is a subcomponent of the Defense ERP that became law under the Superfund Amendments and Reauthorization Act (SARA). The ERP requires each DOD installation to identify, investigate, and clean up hazardous waste disposal or release sites.

MacDill AFB began its ERP in 1981 with 38 sites originally identified. This consisted of a Phase I Records Search to identify potential sites of concern, which warranted further investigation. In accordance with USAF policy, all ERP sites at the base are addressed in a manner consistent with the CERCLA or RCRA process. Restoration projects on MacDill AFB are conducted under two regulatory programs: those governing petroleum releases from underground storage tanks (USTs), and those governing cleanup of Solid Waste Management Units (SWMUs) in accordance with the installation's RCRA permit. There are 49 SWMUs and ERP sites scattered throughout the installation. Of the 49 SWMUs and ERP sites, 21 are No Further Action (NFA), one is pending NFA, and 27 are Remedy in Place (RIP). None of these sites have been identified on the National Priorities List under CERCLA. Plans for future development in the areas of any of the ERP sites should take into consideration the possible restrictions and constraints that they represent.

The FDEP regulates clean-up activities at petroleum sites, and has entered into a Petroleum Contamination Agreement with MacDill AFB. The investigation and cleanup of SWMUs is conducted in accordance with the HSWA permit issued to the base under USEPA ID No. FL6 570 024 582.

3.3.4 Sanitary Wastewater Treatment

MacDill AFB owns and operates its sanitary sewer system consisting of sewer lines, lift stations, and a wastewater treatment plant (WWTP). The WWTP is in the southeastern corner of the base on Bayshore Drive. Current standards allow the WWTP to treat 1.2 million gallons per day (mgd) with a design that will provide for two mgd. Current operations are at 650,000 gallons per day that treat mainly domestic wastewater. The tertiary treatment process uses activated sludge, clarifiers, sand filtration, and disinfection before it is discharged into a holding pond adjacent to the WWTP.

Most of the discharge is used for irrigation purposes for the two golf courses at the Bay Palms Golf Complex on base. During dry periods there is not enough discharge to irrigate the courses and during wet times the extra water is sent to one irrigation field near Golf Course Avenue and

Marina Bay Drive. In addition, a 20-million-gallon percolation pond was constructed to temporarily retain excess wastewater in extremely wet periods.

The WWTP service area does not completely encompass the base and, therefore, MacDill AFB uses on-site septic systems for wastewater treatment and disposal for primarily the western portion of the base and the gates. MacDill AFB currently has 16 septic systems.

3.3.5 Stored Fuel

The Base receives jet fuel (JP-8) at the Defense Fuel Supply Point (DFSP) by pipeline from Port Tampa, while other fuels are delivered to the Base by commercial tank trucks. JP-8 storage capacity at DFSP and MacDill AFB is over 7.5 million gallons. JP-8 storage consists of four large, aboveground, floating-roof tanks at DFSP (total capacity 5.3 million gallons), two large above ground storage tanks for the flightline fueling system (total capacity 1.0 million gallons), and several miles of underground and above ground pipeline. A 12-inch diameter above ground pipeline, which transfers fuel between DFSP and the flightline fuel system, passes along the drainage ditch on the north side of the warehouse complex site. Diesel, gasoline, and heating oil are also stored throughout MacDill AFB in small to medium-sized underground storage tanks (USTs) and aboveground storage tanks (ASTs) ranging in size from 50 to 12,000 gallons.

3.4 WATER RESOURCES

3.4.1 Surface Water

Surface water flows at the Base are primarily from storm water runoff. Topographic maps show that the entire Base is an independent drainage area with no natural surface waters entering or leaving the site prior to final discharge into Tampa Bay. Most of the Base drains toward the southern tip of the Interbay Peninsula; however, the easternmost section of the Base drains toward Hillsborough Bay.

About 25 percent of the Base surface cover is impervious. The soil type is predominantly poorly drained fine sands. The drainage system consists of piping and surface ditches. Man-made ponds exist primarily on the southeast portion of the Base. In the southern portion of the Base

there is a poorly drained area that includes two creeks, Raccoon Hammock Creek and Broad Creek. This area is subject to shallow flooding by the highest of normal tides.

The USEPA issued a National Pollutant Discharge Elimination System (NPDES) multi-sector storm water general permit (No. FLR05E128) to MacDill AFB in April 2006. This permit authorizes the discharge of storm water associated with industrial activity. Areas of potential runoff contamination at the Base are the runways and the airfield aprons.

In addition to runoff flows, there are non-rainfall related flows discharging into the storm water system. These flows include drainage from equipment maintenance facilities. To control for discharges of floating pollutants resulting from accidental spills, the Base maintains a number of boom-type containment systems and absorbents across storm water channels. Most of these facilities discharge into the sanitary sewer system. The Base also maintains a Spill Prevention Control and Countermeasures (SPCC) Plan to satisfy 40 CFR 112. Per the same regulation, a Facility Response Plan was developed given the location of the Base adjacent to navigable waters and shorelines, as well as the amount of fuel storage capacity existing on site.

3.4.2 Groundwater

There are two aquifer systems underlying MacDill AFB, the surficial aquifer and the Floridan aquifer. The surficial aquifer system, which consists generally of sand, clayey sand, and shell, is unconfined and is approximately 20 feet thick; however, the surficial aquifer is not used for water supply at MacDill AFB. In residential areas beyond the Base boundaries, small-diameter wells are installed in the surficial aquifer to supply small irrigation systems. The Floridan aquifer underlies the surficial aquifer and is separated from it by a clay confining layer. The Floridan aquifer is a major source of groundwater in the region, but is not used for water supply at MacDill AFB. Potable water is supplied to MacDill AFB by the City of Tampa, which obtains most of its drinking water from surface water sources.

The water table in the surficial aquifer is shallow and ranges from land surface near Tampa Bay and tidal creeks to approximately five feet below land surface at inland locations. Groundwater levels and flow directions generally are determined by low gradients and are tidally influenced by ditches and canals and by Hillsborough and Tampa Bays. The direction of groundwater flow

in the surficial aquifer is generally radial from the north-central portion of the Base towards the coastline. Groundwater mounding ,or a localized elevation of the water table above natural levels has been shown to occur in the golf course area where reclaimed water from the on-base wastewater treatment plant is applied by spray irrigation.

Groundwater quality has been affected by past and present Base activities. Elevated volatile organic compound concentrations have been found in surficial aquifer groundwater at various sites that contain or contained petroleum storage tanks. Elevated metals concentrations have been found in areas of former landfills. Elevated nitrate, nitrite, and pesticide concentrations have been identified in golf course areas.

3.5 FLOODPLAINS

According to information provided by the Federal Emergency Management Agency (FEMA Maps dated 2008), 80 percent of the Base is within the 100-year floodplain (see Figure 3-1). The maps indicate that all the residential, industrial, and institutional (medical and education) land uses on the Base are within the 100-year floodplain, along with most of the commercial and aviation support areas. The remaining 20% of land that is above the floodplain is designated primarily for airfield operations.

The extent of the floodplain is an important consideration for MacDill AFB because EO 11988, Floodplain Management, regulates the use of these areas. The objective of this Executive Order is to avoid to the extent possible the long- and short-term adverse impacts associated with occupancy and modification of floodplains. The order applies to all Federal agencies conducting activities and programs that may potentially affect floodplains. To comply with EO 11988, before taking any action, the Air Force must evaluate the impacts of specific proposals on the floodplain. The site proposed for the warehouse complex is located within the 100-year floodplain.

3.6 BIOLOGICAL RESOURCES

3.6.1 Vegetative Communities

Land use on MacDill AFB includes urban, light industrial, residential, or improved vacant land. The improved vacant land includes cleared open fields, grassed areas, treated wastewater spray fields, and the golf course. The developed and semi-developed areas on the Base comprise approximately 3,500 acres of the 5,630-acre Base. The few undeveloped areas within the Base boundaries have all experienced some degree of disturbance, such as ditching, clearing, or the encroachment of exotic vegetation. The unimproved vegetative communities include forested uplands and shrub-scrub wetlands.

3.6.2 Wetlands

The 1998 Wetland Delineation Study identified, delineated, and classified approximately 1,195 acres of wetlands on MacDill AFB. Wetland systems included palustrine wetlands (317 acres) and scrub/shrub wetlands (880 acres). Mangrove wetlands are the principal scrub/shrub wetland community on the Base. Black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*) are the dominant species. Red mangrove (*Rhizophora mangle*) is also present at the waterward fringes of the community. The mangroves have been negatively impacted by historic dredge and fill activities and the excavation of mosquito ditches. However, despite these impacts, this community provides valuable wildlife habitat and is protected by state and local regulations.

A jurisdictional wetland survey performed by an U.S. Army Corps of Engineers (USCOE) certified wetland delineator indicated the locations of Waters of the United States and vegetated wetlands at MacDill AFB (USAF, 1998a). No wetlands are indicated in the wetland inventory at the site for the proposed warehouse complex. A site visit by a representative of the MacDill AFB natural resources staff verified the absence of wetlands at the Proposed Action site; however a small drainage ditch (wetlands) was observed adjacent to the site on the north side.

3.6.3 Wildlife

Representatives from the Florida Fish and Wildlife Conservation Commission (formerly the Florida Game and Freshwater Fish Commission), National Audubon Society, and the Tampa Bay Sanctuaries completed an evaluation of the wildlife habitat on MacDill AFB in 1994. These surveys determined that the habitat quality ranged from poor to excellent, with the upland forested communities considered poor and the mangrove wetlands considered excellent. The upland forested habitat has been degraded for native fauna due to the suppression of the natural fire cycle, the fragmentation of the habitat, and the invasion of exotic vegetation. The mangrove wetland habitat has been degraded somewhat by the excavation of mosquito ditches and the deposition of spoil within the wetlands. However, the large contiguous habitat area that the mangroves provide and the relative inaccessibility to humans has increased the habitat value.

The surveys also included an evaluation of the wildlife species present and potentially present on the Base. The species observed during the surveys included one reptile, 10 mammals, and 79 birds. Based on the types of habitat available, the survey concluded that 20 reptiles, 17 mammals, and 155 birds might occur within the boundaries of the Base.

3.6.4 Endangered, Threatened, and Special Concern Species

Wildlife species listed by federal or state agencies as endangered, threatened, or of special concern and known to occur permanently or periodically, or have the potential to occur on the Base are shown in **Table 3.6.4**. The majority of the listed species are associated with the mangrove community and include shore birds, wading birds, and raptors. These species use the mangrove community primarily for foraging and nesting.

The forested upland communities provide habitat for several state and federally listed species. The southeastern American kestrel, the burrowing owl, and gopher tortoise have been observed within this community on the Base. Other listed species that may occur in this habitat include gopher frog, Florida pine snake, short-tailed snake, Bachman's warbler, and Florida mouse. A pair of bald eagles has repeatedly nested on MacDill AFB for the past several years. Over the last 10 years the eagles have occupied three different nest locations, the first nest was abandoned around 1998 in favor of a new location closer to the South Ramp. The new nest tree location

was blown over a few years later during tropical storm Gabriel in September 2001. In 2003 the eagles constructed a new nest in a longleaf pine tree in the middle of the Munitions Storage Area. Although the tree has since succumb to pine beatles, the dead tree is still standing and the nest continues to be occupied during the breeding season. A 1,500-foot "clear zone" has been established around the nest site.

In 1996, the *Endangered Species Management Plan MacDill AFB* and the *Biological Survey of MacDill AFB* identified the general locations of protected species at MacDill AFB (USAF,1996a and 1996b). In 2005, MacDill AFB completed an updated Endangered Species Population Survey (USAF, 2005). Neither survey identified nesting sites or other species habitat for protected species at or in the vicinity of the proposed warehouse complex.

Table 3.6-1 Summary of Protected Species Identified at MacDill AFB

Common Name	Scientific Name	Federal Status	State Status	Comments/Habitat
Plants				
Florida golden aster	*Chrysopsis floridana*	E	E	Grows in open sunny areas in sand-pine evergreen oak scrub.
Amphibians				
Gopher frog [a]	*Rana capito*	NL	SSC	Prefers xeric pine flatwoods.
Reptiles				
American alligator a	*Alligator*	T (S/A)	SSC	Found occasionally and relocated off base.
Atlantic loggerhead sea turtle [a]	*Caretta caretta*	T	T	Uses beach areas for nesting.
Atlantic green sea turtle	*Chelonia mydas mydas*	E	E/T c	Uses beach areas for nesting.
Eastern indigo snake	*Drymarchon corais couperi*	T	T	Potentially occurs in woody uplands bordering mangroves.
Gopher tortoise [a, b]	*Gopherus polyphemus*	NL	SSC	Occurs in recently burned pine flatwoods. Resident on base.
Florida pine snake	*Pituophis melanoleucus mugitus*	NL	SSC	Prefers xeric pine flatwoods.
Short-tailed snake	*Stilosoma extenuatum*	NL	T	Prefers xeric pine flatwoods.

Common Name	Scientific Name	Federal Status	State Status	Comments/Habitat
Birds				
Roseate spoonbill [a, b]	*Platalea ajaja*	NL	SSC	Forages and roosts along shorelines and mangrove system. Resident on base.
Florida scrub jay	*Aphelocoma coerulescens*	T	T	No suitable habitat identified on MacDill AFB.
Limpkin	*Aramus guarauna*	NL	SSC	Potentially occurs along shores, ditches, and in mangroves.
Burrowing owl [a, b]	*Athene cunicularia*	NL	SSC	Nests in open mowed areas. Resident on base.
Southeastern snowy plover	*Charadrius alexandrinus tenuiristris*	NL	T	Possibly occurs along shorelines in winter.
Piping plover [a]	*Charadrius melodus*	T	T	Possibly occurs along shorelines in winter.
Little blue heron [a, b]	*Egretta caerulea*	NL	SSC	Common along shorelines, ditches, and mangroves. Resident on base.
Reddish egret [a, b]	*Egretta rufescens*	NL	SSC	Prefers shorelines, sandbars, and shallow salt ponds. Possible resident
Snowy egret [a, b]	*Egretta thula*	NL	SSC	Common along shorelines, ditches, and mangroves. Resident on base.
Tricolored heron [a, b]	*Egretta tricolor*	NL	SSC	Common along shorelines, ditches, and mangroves. Resident on base.
White ibis [a, b]	*Eudocimus albus*	NL	SSC	Common along freshwater marshes or ponds, or along shorelines. Resident on base.
Arctic peregrine falcon	*Falco peregrinus tundrius*	NL	E	Probable occurrence along shorelines during winter migration.
Southeastern American kestrel [a]	*Falco sparverius paulus*	NL	T	Prefers open stands of mature pines.
Florida sandhill crane [a]	*Grus canadensis pratensis*	NL	T	Visitor to open areas.
American oystercatcher [a, b]	*Haematopus palliatus*	NL	SSC	Prefers coastal shorelines, sandbars, and tidal flats. Resident on base.
Bald eagle [a, b]	*Haliaeetus leucocephalus*	T	T	Potential for foraging and nesting on the base. Resident on base.
Wood stork [a, b]	*Mycteria americana*	E	E	Occurs regularly in coastal wetlands and open uplands. Resident on base.

Common Name	Scientific Name	Federal Status	State Status	Comments/Habitat
Brown pelican [a, b]	*Pelecanus occidentalis*	NL	SSC	Common along waterfront and mangrove areas. Resident on base.
Red-cockaded woodpecker	*Picoides borealis*	E	SSC	Prefers longleaf pine stands, occasionally slash pines.
Audubon's crested caracara	*Polyborus plancus audubonii*	T	T	Prefers dry open prairies.
Black skimmer [a, b]	*Rynchops niger*	NL	SSC	Primarily occurs along shorelines but can also be found at inland lakes.
Least tern [a]	*Sterna antillarum*	NL	T	Probably forages in drainage ditches and ponds on base.
Roseate tern	*Sterna dougallii*	T	T	Probably forages in drainage ditches and ponds on base.
Bachman's warbler	*Vermivora bachmanii*	E	E	Potential for occurrence during migration. Generally believed to be extinct.
Fish				
Common snook [a]	*Centropomus undecimalis*	NL	SSC	Uses mangroves for spawning.
Mammals				
Florida mouse	*Podomys floridanus*	NL	SSC	Prefers scrubby flatwood habitat.
Sherman's fox squirrel	*Sciurus niger shermani*	NL	SSC	Prefers pine flatwood habitat.
West Indian manatee [a]	*Trichechus manatus latirostris*	E	E	Summer range in Tampa Bay and tributaries.

T=Threatened, T(SA)=Threatened/Similarity of Appearance, E= Endangered, SSC= Species of Special Concern, C2=Candidate for listing

Source: Endangered Species Management Plan, MacDill AFB, Florida, 1996

3.7 SOCIOECONOMICS

The Economic Impact Region (EIR) for MacDill AFB is the geographic area within a 50-mile radius of the base subject to significant base-related economic impacts. According to the 2002 Economic Resource Impact Statement for MacDill AFB (USAF, 2003), the total economic impact of MacDill AFB on the EIR was $5.59 billion with over 133,000 jobs supported. Retiree

income provides an economic impact of $2.13 billion. The direct impact on local income produced by base expenditures is $1.2 billion.

3.8 TRANSPORTATION

MacDill AFB is served by four operating gates on the north side of the base: Dale Mabry Highway, Bayshore Boulevard, MacDill Avenue, and Tanker Gates. The Dale Mabry, Bayshore, and MacDill gates are used for government and personal vehicles (commuter traffic). The Tanker gate is used as the large vehicle (contractor trucks, delivery vehicles, and recreational vehicles) entry point. Large vehicles are inspected, and their credentials and destinations are confirmed before entering the base.

Traffic conditions on the roadways that access the Base are generally acceptable. However, sections of Bayshore Boulevard near Gandy Boulevard and sections of Gandy Boulevard west of Dale Mabry currently operate at congested levels of service.

The transportation system on Base consists of arterials, collectors, and local streets that connect with the off-base network through the three gates. On-base arterial facilities include North and South Boundary Roads, Bayshore Boulevard, Marina Bay Drive, and Tampa Point Boulevard. The 1998 traffic study determined that service levels for traffic on Base are generally acceptable. However, modification to intersections along South Boundary Boulevard, Tampa Point Boulevard, and Marina Bay Drive would increase flow and safety (USAF, 1998b).

3.9 SAFETY AND OCCUPATIONAL HEALTH

A safe environment is one in which there is an absence of or an optimally reduced potential for death, serious bodily injury or illness, or property damage. Human health and safety addresses (1) workers' health and safety during demolition activities and facilities construction and (2) public safety during demolition and construction activities and during subsequent operations of those facilities (Headquarters Air Mobility Command [AMC], 2007).

3.9.1 Construction Safety

Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness,

injury, death, and property damage. The health and safety of on-site military and civilian workers are safeguarded by numerous DoD and USAF regulations designed to comply with standards issued by the OSHA and USEPA. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors.

All contractors performing construction activities are responsible for following ground safety and OSHA regulations and are required to conduct construction activities in a manner that does not pose a risk to workers or installation personnel. Industrial hygiene programs address exposure to hazardous materials, use of personal protective equipment, and use and availability of Material Safety Data Sheets. Industrial hygiene is the responsibility of contractors and USAF personnel, as applicable. Contractor responsibilities are to review potentially hazardous workplaces; to monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous material), physical (e.g., noise propagation), and biological (e.g., infectious waste) agents; to recommend and evaluate controls (e.g., ventilation, respirators) to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures or engaged in hazardous waste work.

3.9.2 Explosives Safety

Several areas are constrained by Quantity Distance (QD) arcs at MacDill AFB. QD arcs are buffers that are generated around facilities that contain high explosive munitions or flammable elements. The size and shape of these arcs depend on the type of facility and net explosive weight of the munitions being housed. QD arcs are established to ensure that a minimum safe distance is present within areas where explosions may occur. To minimize the potential for the loss of human life and property damage in the event of an explosion, no non-munitions related development may occur within the QD arcs. The QD arcs associated with the munitions storage area and the taxiways and deployed unit complex on the airfield are the largest areas constrained by a QD arc on the installation. Smaller QD arcs on MacDill AFB are in conjunction with the DFSP and the Explosives Ordinance Disposal (EOD) range. Safety fans are associated with the small arms and skeet ranges. The QD arc for DFSP is shown in Figure 4-1.

3.10 GEOLOGY AND SOILS

Geological resources consist of the earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography, soils, geology, minerals, and, where applicable, paleontology.

Topography. Topography pertains to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features.

Soils. Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Geology. Geology, which concerns itself with the study of the earth's composition, provides information on the structure and configuration of surface and subsurface features. Such information derives from field analysis based on observations of the surface and borings to identify subsurface composition. Hydrogeology extends the study of the subsurface to water-bearing structures. Hydrogeological information helps in the assessment of groundwater quality and quantity and its movement.

The geological resources information provided in this EA was obtained from the *MacDill Air Force Base General Plan* (MAFB 2002) and the INRMP (MAFB 2006). MacDill AFB is in the Pamlico Terrace which rises gently from the coast to about 25 feet above sea level. Elevations on the base range from sea level at the southern edge to about 15 feet above sea level in the northern portions. Much of the base is less than 5 feet above mean sea level.

MacDill AFB is situated in the Gulf Coastal Lowlands physiographic region. There are three principal lithologic sequences in the area. The top unit is unconsolidated sand, clay, and marl. This unit might include remnants of the Hawthorn Formation composed of sand, clay, and thin lenses of limestone. Sands in this unit range from 5 to 20 feet thick with clay layers up to 40 feet thick. This surficial layer is very thin or even absent on the eastern side of the base, and

underlying limestone formations sometimes outcrop in this area. The next deepest layer is composed of Tampa and Suwannee Limestones which range from 250 to 500 feet thick. Below this layer are the Ocala Group; Avon Park, Lake City, and Oldsmar Limestones; and Cedar Keys Limestone, which are about 2,300 feet deep.

Sinkholes are common in the Hillsborough County area, but they are uncommon on MacDill AFB because of overlying impervious layers of clay, limited groundwater recharge, and the presence of a slow discharge zone for the Floridan aquifer. There has also been considerable amount of fill material used in MacDill AFB. Most of this material originated from dredging activities in the surrounding bays. Erosion is an ongoing problem along Gadsden Point at the southeastern corner of the Bay Palms Golf Complex. There is also a problem with sand washing in the boat channel leading to the base marina.

There are eight soil series which cover the installation property: Myakka, Urban Land, St. Augustine, Wabasso, Malabar, Arents, Pomello, and Tavares. Two MacDill AFB soils are hydric and thus have jurisdictional wetland implications. Myakka Fine Sand (frequently flooded) is within tidal areas and occurs mainly on mangrove areas. These soils are subject to tidal flooding, are very level, and are poorly drained. Malabar Fine Sand is generally adjacent to the Myakka Fine Sand. This includes flatwood areas, portions of the golf course, and some development. They are nearly level and poorly drained, often occurring in low-lying sloughs and shallow flatwoods depressions. Myakka is a hydric soil association with Myakka Fine Sand found in tidal areas associated with mangroves. Malabar Fine Sand is also a hydric soil found adjacent to Myakka Fine Sand. There are no prime or unique farmland soils on MacDill AFB.

SECTION 4.0
ENVIRONMENTAL CONSEQUENCES

Implementation of the Proposed Action could have short minor impacts to the environment. Section 4.0 discusses the potential effects associated with implementation of the Proposed Action and the alternative to the Proposed Action. The Proposed Action is to construct a new warehouse complex at the location proposed in Section 2.2. The Proposed Action also includes demolition of a septic system and construction of a new septic system. The No-Action alternative was the only alternative considered to implementation of the Proposed Action.

4.1 AIR QUALITY

4.1.1 Proposed Action

Air quality impacts would occur during construction of the new warehouse complex and associated demolition of a septic system and construction of a new septic system; however, these air quality impacts would be temporary.

Fugitive dust (particulate matter: suspended and PM_{10}) and construction vehicle exhaust emissions would be generated by (1) equipment traffic; and (2) entrainment of dust particles by the action of the wind on exposed soil surfaces and debris. The quantity of fugitive dust emissions from the construction site is proportional to the land being worked and the level of construction activity. These emissions would be greater during the new area site grading. Emissions would vary daily. Dust would be generated by equipment travel over temporary roads and would fall rapidly within a short distance from the source.

Chapter 62-296, Florida Administrative Code (FAC), requires that no person shall allow the emissions of unconfined particulate matter from any activity (including vehicular movement, transportation of materials, construction, demolition, or wrecking, etc.) without taking reasonable precautions to prevent such emissions. Reasonable precautions include:

- Paving and maintenance of roads, parking areas, and yards;
- Applications of water or chemicals (foam) to control emissions from activities such as demolition, grading roads, construction, and land clearing;

- Application of asphalt, water, or other dust suppressants to unpaved roads, yards, open stock piles, and similar areas;
- Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from building or work areas to prevent particulates from becoming airborne; and
- Landscaping or planting of vegetation;

Pollutants from construction equipment and vehicle engine exhausts include nitrogen oxides (NO_x), carbon monoxide (CO), PM_{10}, and VOCs. Internal combustion engine exhausts would be temporary and, like fugitive dust emissions, would not result in long-term impacts.

In order to evaluate the air emissions and their impact to the overall region, the emissions associated with construction activities were compared to the total emissions on a pollutant-by-pollutant basis for the Hillsborough County's 2002 inventory data, as presented in Section 3.1.2. Potential impacts to air quality are then identified as the total emissions of any pollutant that equals ten percent or more of the county's emissions for that specific pollutant. The ten percent criteria approach is used in the General Conformity Rule as an indicator for impact analysis for nonattainment and maintenance areas and although Hillsborough County is in attainment, the General Conformity Rule's impact analysis was utilized to provide a consistent approach to evaluating the impact of construction. To provide a more conservative evaluation, the impacts screening in this analysis used a more restrictive criteria than required in the General Conformity Rule. Rather than comparing emissions from construction activities to regional inventories (as required in the General Conformity Rule), emissions were compared to the individual county (Hillsborough) potentially impacted, which is a smaller area.

Pollutant emission estimates are presented in Appendix C and summarized in **Table 4.1.1** and assumed construction of two warehouses per year. The USEPA estimates that the effects of fugitive dust from construction activities would be reduced significantly with an effective watering program. Watering the disturbed area of the construction site twice per day with approximately 3,500 gallons per acre per day would reduce total suspended particle emissions as much as 50 percent (USEPA, 2006)

Table 4.1-1 Proposed Action Air Emissions at MacDill AFB

Pollutant	Proposed Action Annual Emissions (tpy)	Hillsborough County Emissions Inventory[a] (tpy)	Net Change (%)	De minimis Values[b] (tpy)	Above/ Below De minimis
CO	0.845	6,517	0.0130%	100	Below
VOC	0.268	34,880	0.0008%	100	Below
NO_X	0.728	58,191	0.0013%	100	Below
SO_X	0.021	65,890	0.0000%	100	Below
PM10[b]	5.542	22,379	0.0248%	100	Below
Pb	--	4.46	--	25	--

[a] Based on total stationary emissions presented in Table 3.1.2
[b] Source: 40 CFR 93.153, November 30, 1993.

As shown in **Table 4.1-1**, the Proposed Action would generate emissions well below 10% of the emissions inventory for Hillsborough County. In addition, the emissions would be short-term. Therefore, no significant impact on regional or local air quality would result from implementation of the Proposed Action for the construction projects.

4.1.2 No-Action Alternative

Because the status quo would be maintained, there would be no impacts to air quality under the No-Action alternative.

4.1.3 Cumulative Air Quality Impacts

The cumulative air impacts would include air sources from other proposed construction and demolition projects on MacDill AFB during the four year period needed to complete the construction of the warehouse complex. A listing of the other proposed construction and demolition projects are presented in Tables 4.1.2 and 4.1.3, respectively.

Table 4.1-2 Cumulative Construction Projects

Other Proposed Construction Projects	
USSOCOM Acquisition Center (501E)	New CENTCOM construction and demolition
USSOCOM Center for Special Operations (501D)	VOQ and Collocated Officer Club
USSOCOM Parking Garage (501D Phase 2)	Trans/Supply Complex
USSOCOM Acquisition & Logistics Center (B306)	SOCCENT HQ
EOD Facility	DASH 21

Other Proposed Construction Projects	
Aeromedical Staging Training Squadron (ASTS)	New CATM
JCSE Squadron Facility	New CDC
Construct POV Car Wash	120 Room Dorm
Military Housing Privatization	

Table 4.1-3 Cumulative Demolition Projects

Facility Number	
500	402
510	404
119	405
317	408
308	540
397	541
398	543
401	Medical Treatment Facility (multi facilities)

Details of the other proposed construction and demolition projects are included in Appendix C. Pollutant emission estimates are presented in Appendix C and summarized in **Table 4.1.4**. Based on the calculations provided in Appendix C and presented in Table 4.1.4, the cumulative annual emission estimates fall below the *de minimis* level of 100 tons per year for all five pollutants evaluated.

Table 4.1-4 Cumulative Air Emissions at MacDill AFB

Pollutant	Cumulative Annual Emissions (tpy)	Hillsborough County Emissions Inventory[a] (tpy)	Net Change (%)	De minimis Values[b] (tpy)	Above/ Below De minimis
CO	62.413	6,517	0.9576%	100	Below
VOC	8.369	34,880	0.0240%	100	Below
NO_X	23.349	58,191	0.0401%	100	Below
SO_X	1.520	65,890	0.0023%	100	Below
PM10[b]	30.430	22,379	0.1360%	100	Below
Pb	--	4.46	--	25	--

4.2 NOISE

The primary human response to environmental noise is annoyance (AIHA, 1986). The degree of annoyance has been found to correlate well with the DNL. Annoyance for short-term activities, such as construction noise and fire fighting, could be influenced by other factors such as awareness and attitude toward the activity creating the noise.

Several social surveys have been conducted in which people's reaction to their noise environment has been determined as a function of DNL occurring outside their homes. Guidelines have been developed for individual land uses based upon the information collected in these surveys and upon information concerning activity interference. For various land uses, the level of acceptability of the noise environment is dependent upon the activity that is conducted and the level of annoyance, hearing loss, speech interference, and sleep interference that results there from.

4.2.1 Proposed Action

Noise impacts associated with the Proposed Action would result from construction of the warehouse complex. The degree of noise impacts would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. Normally, construction activities are carried out in stages and each stage has its own noise characteristics based on the mixture of construction equipment in use.

The highest calculated cumulative energy equivalent sound levels from construction activities are estimated to be approximately 85 dB at 50 feet from the center of the project site. Typical noise levels at 50 feet for various equipment that would be used during construction include: 80 dB for bulldozers, 83 dB for cranes, 85 dB for backhoes, and 91 dB for trucks (USEPA, 1971). There are no sensitive noise receptors in the immediate vicinity of the warehouse complex site. The closest facility to the construction site that is permanently occupied is Facility 1122 (DFSP facility), which is located approximately 275 feet west of the site. The other facilities around the construction site including 1102, 1110, and 1115 are all unoccupied or only temporarily occupied and are all more than 135 feet from the site.

All of the adjacent receptors would probably experience noise impacts from construction. The magnitude of these impacts would be directly tied to the proximity of the occupied facility to the construction site. In addition, the impacts vary according to the activity occurring on any particular day, and impacts would cease when construction is completed. Based on a cumulative average construction noise level of approximately 85 dB at 50 feet from the center of the project site there are no facilities or off-base neighborhoods that would be impacted by the Proposed Action.

Under the Proposed Action, potential noise impacts would occur during the construction and demolition activities. However, these impacts are temporary and considered minor.

The overall noise level produced during operation of the proposed warehouse complex would be consistent with normal Base activities on the installation, and would be insignificant.

4.2.2 No-Action Alternative

Under the No-Action Alternative no new noise impacts would occur since no demolition would occur and the new warehouse complex would not be constructed.

4.2.3 Cumulative Noise Impacts

The cumulative noise impacts would include noise sources from the proposed construction activities, and other construction projects that have been approved in the vicinity of the project area. No other construction or demolition projects are currently proposed for areas around the Proposed Action. Therefore, no additional noise impacts would be expected to result from the Proposed Action beyond those discussed in Sections 4.2.1 and 4.2.2. Under the No Action alternative there would be no cumulative noise impacts. In general the noise increases for either alternative would be incremental and considered insignificant in comparison with the noise level present at an active flying base.

4.3 HAZARDOUS MATERIAL AND WASTES, AND STORED FUEL

The following section describes hazardous waste and materials, ERP, sanitary wastewater treatment, and stored fuels management.

4.3.1 Proposed Action

4.3.1.1 Hazardous Materials

Hazardous materials, such as paint, adhesives, and solvents, would be on site during construction of the new warehouse complex. All hazardous materials would be temporarily stored and disposed of per Base procedures. All construction-related hazardous materials, including petroleum products, would be removed and disposed of according to Base procedures following the completion of tasks. No impacts from hazardous materials would occur during operation of the new warehouse complex.

4.3.1.2 Wastes

A temporary increase in the generation of solid waste would occur during construction of the proposed warehouse complex and demolition of the septic system and drainfield. Local off-base waste handling services/facilities have sufficient capacity to handle this increased output. Since the number of personnel on base or the function of the multiple organizations would not change with the Proposed Action, there would be no long-term increase in solid waste generation after completion of the project.

It is anticipated that the quantity of hazardous wastes generated from proposed construction activities would be negligible. Contractors would be required to properly manage and dispose of their own hazardous waste. Therefore, the implementation of the Proposed Action would be negligible to the base's hazardous waste management program. No impacts from hazardous waste are anticipated to occur during operation of the new warehouse complex as no hazardous materials or wastes will be stored at the complex.

4.3.1.3 Environmental Restoration Program

One ERP site is located adjacent to the proposed construction site, SWMU 24 is located approximately 100 feet west of the proposed construction site. Although the ERP site is located near the proposed construction site, this site would have little effect on construction and operation of the proposed warehouse complex. The soil impacts for the ERP sites are limited and well defined and the lateral extent of groundwater impacts have been defined and do not

extend into the proposed warehouse complex. The potential contaminants of concern for soils are benzene, total carcinogenic polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH). The potential contaminants of concern for ground water are arsenic, benzene, TPH, vinyl chloride, and total xylenes. Full-scale, active groundwater remediation was conducted at SWMU 24 using biosparging beginning in July 2007. Biosparging activities at SWMU 24 were terminated in mid-January 2009 and after two consecutive monitoring rounds groundwater contaminants were below the state of Florida's natural attenuation default concentrations. The current site status is monitoring for natural attenuation with land use controls (USAF, 2009).

A septic system is located within the warehouse complex site and is proposed for removal during the construction. A preliminary assessment/site investigation (PA/SI) was conducted to investigate 28 septic tank systems and their associated drain fields at 24 locations on base. This facility (F1103) was not recommended for an SI since it was currently being used (Earth Tech, 2008). After the septic system and drain field is demolished, it is recommended that soil and groundwater samples be taken to ensure that no contamination exists. The samples should be analyzed for the following analytical methods presented in Table 4.3-1.

Table 4.3-1 Recommended Analytical Methods

Parameter	Method
VOC	8260
SVOC	8270
Herbicides	8151
Pesticides	8081
PCB	8082
Cyanide	9012
TPH	FL PRO
TAL Metals	6010/7471

There is no reason to suspect that contaminated soil or groundwater would be encountered during construction of the proposed warehouse complex. However, if contaminated media is encountered during demolition activities, work would be stopped and the contaminated material would be removed by OSHA Hazardous Waste Operator and Emergency Response 40-hour-certified workers and managed in accordance with ERP guidelines and would not represent a significant impact to the project.

4.3.1.4 Sanitary Wastewater Treatment

The warehouse complex may include a small restroom area in each facility that contains a sink and a toilet. The new septic system would be adequately sized to handle up to eight additional restrooms, which would only be occasionally used. A permit for the construction and operation of the septic system would be obtained from the Hillsborough County Public Health Department. Under the Proposed Action the existing septic system would be removed and demolished.

4.3.1.5 Stored Fuels

The Proposed Action would have no impact on stored fuels management at the Base.

4.3.2 No-Action Alternative

Under the No-Action Alternative, no impacts to hazardous material or wastes or stored fuels would occur since there would be no change in the existing conditions.

4.4 WATER RESOURCES

4.4.1 Proposed Action

A small amount of soil erosion may occur during construction and demolition activities since the soil surface would be exposed and disturbed at each location during the project. Soil erosion in areas that are disturbed would be minimized by implementing a sediment and erosion control plan, adopting Best Management Practices (BMPs). This EA has been prepared under the assumption that the site would, at a minimum, be covered with a clean layer of graded and grassed fill and sod. Erosion from this surface, once the fill and sod is in place, would be minimal. There would be no long-term impacts to water resources once the project is complete.

Under the Proposed Action, there would be no direct or indirect discharges to groundwater. No negative impacts to groundwater would occur with implementation of the Proposed Action. Potable water would be required for up to eight restrooms at the proposed warehouse complex; however, the amount of water required for operation of the restroom would not represent a significant impact to existing water supply on base.

4.4.2 No Action Alternative

Under the No Action alternative, there would be no change to the current conditions and no impacts to water resources would occur with implementation of this alternative.

4.5 FLOODPLAINS

In accordance with the requirements of EO 11988, the Air Force must demonstrate that there is no practicable alternative to carrying out a proposed action within the flood pool or floodplain. As discussed in **Section 2.2**, two parcels were initially identified on-base during the siting phase outside of the floodplain for the location of the warehouse complex; however, each parcel was not large enough or had already been designated for other uses. Leasing or purchasing a warehouse off-base was also explored during the initial siting phase; however, due to cost, communications, security, response times, and, transportation reasons these alternatives were eliminated from further consideration. No other practicable sites were identified during the initial siting phase, and potential siting locations were limited due to the nature of the project and the requirement of the end-users.

4.5.1 Proposed Action

The proposed warehouse complex would be located entirely in the 100-year floodplain. The land would be changed from an open grassy area to a group of warehouses; however, the land use designation for the area would not change since the site is already designated as industrial land-use. The proposed new construction site represents the only practicable site from engineering, cost, and logistical standpoints, and would produce no major negative impacts. All practicable measures to minimize the impact of floods on human health, safety, and welfare would be implemented for the project including the following:

- All new structures not used solely for parking, storage or infrastructure utilities that can't be impacted by flooding shall be elevated at least 11.5 ft and must be able to withstand sustained winds of 100 miles per hour (mph) and wind gusts of 120 mph.
- The lowest floor (including basement) shall be elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (or 11.5 ft), or together with attendant utility and sanitary facilities, be completely floodproofed to the (base flood) level to meet the floodproofing standard.
- A registered professional engineer or architect shall develop or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with the accepted standards of practice.
- Sensitive equipment shall be placed on the upper levels of buildings or flood-proofed if they cannot be placed in these areas. Utilities should be flood-proofed to prevent damage.
- Implement the creation of new stormwater retention areas for all projects that add impervious surfaces. Stormwater retention areas shall be maintained for invasive plant species which can interfere with the drainage.

The warehouses would be constructed 11.5 feet above mean sea level in accordance with Federal Emergency Management Agency (FEMA) guidelines. Construction and operation of the proposed warehouse complex would not damage floodplain values, including fish and wildlife habitat, or water quality. Nor would new construction pose a threat to human life, health, or safety. Under the Proposed Action, no negative impacts to the floodplain would occur.

4.5.2 No Action Alternative

There would be no changes to existing conditions with implementation of the No Action alternative and there would be no impacts to the floodplain.

4.6 BIOLOGICAL RESOURCES

MacDill AFB has implemented an Integrated Natural Resources Management Plan (INRMP). The INRMP establishes baseline conditions for natural resources on MacDill and outlines the base's approach to the management of these resources. The INRMP, which utilized an ecosystem management approach, addresses a wide range of management issues including threatened and endangered species, wetlands, watershed protection, fish and wildlife, forest management, grounds maintenance, outdoor recreation and coastal management. The INRMP is updated every five years and submitted to the base Wing Commander and the state and Federal

Fish and Wildlife Services for review, comment, and approval. MacDill AFB's current INRMP was finalized in May 2006 and is currently being revised.

4.6.1 Proposed Action

4.6.1.1 Wetlands

Implementation of the Proposed Action would have no impact on wetlands. The proposed construction activities would not directly impact the drainage ditch north of the site, and implementation of best management practices for sediment and erosion control would ensure that the project does not cause secondary impacts to the wetland.

4.6.1.2 Listed Species Habitat

Section 3.6.4 lists the Federal- and State-listed species that potentially occur at MacDill AFB. No Federal or state-listed species or species habitat is present at the proposed construction and demolition sites or would be impacted by the project. Coordination with the U.S. Fish and Wildlife Service was undertaken to ensure compliance with the Endangered Species Act and confirm that the project would have no impact on listed species.

4.6.2 No Action Alternative

No new construction or demolition would occur with implementation of the No Action alternative and no impacts to biological resources would occur.

4.7 SOCIOECONOMICS

4.7.1 Proposed Action

The new warehouse complex would cost approximately $800,000 to construct per facility for a total of $6,400,000 over a four year period, based on 2009 cost estimates. This would equal approximately 0.07% of the nearly $1.2 billion annual expenditures that MacDill AFB provides to the local economy, and would therefore constitute a minor beneficial impact. The Proposed Action would also have a minor beneficial impact on the work force in the region during the construction period.

4.7.2 No-Action Alternative

Under the No-Action Alternative, no impacts to socioeconomic resources would be incurred.

4.8 TRANSPORTATION

4.8.1 Proposed Action

There would be a temporary negative impact from construction vehicles during construction of the new warehouse complex, but the level of service of Base roads provide would not be compromised. The operation of the new warehouse complex would have a beneficial long-term impact on transportation on MacDill AFB, since a majority of the delivery trucks would be traveling to and from a centralized area in the western portion of the base away from more congested areas of the base.

4.8.2 No-Action Alternative

No impacts on transportation would be incurred under the No-Action alternative.

4.9 SAFETY AND OCCUPATIONAL HEALTH

4.9.1 Proposed Action

4.9.1.1 Construction Safety

The proposed construction activities for the project would pose safety hazards to the workers similar to those associated with typical industrial construction projects, such as falls, slips, heat stress, and machinery injuries. Construction would not involve any unique hazards and all construction methods would comply with OSHA requirements to ensure the protection of workers and the general public during construction. Governmental oversight of contractor activities would help assure OSHA compliance. Since the Proposed Action does not involve building demolition, asbestos and lead-based paint will not be affected.

As stated in **Section 4.3.1**, the proposed site location is adjacent to the SWMU 24. The lateral extent of soil and groundwater impacts from of the site is well defined and do not extend into the areas proposed for construction or demolition. Consequently, soil and groundwater contamination are not expected to have an impact on worker health and safety.

If contaminated media is encountered during construction or demolition activities, work would be stopped and the contaminated material would be removed by OSHA Hazardous Waste Operator and Emergency Response 40-hour-certified workers and managed in accordance with ERP guidelines. Implementation of this work approach would dramatically reduce the potential for impacts to worker health and safety, therefore the Proposed Action would not have a significant impact on worker health and safety.

4.9.1.2 Explosive Safety

The Proposed Action abuts the QD arc for the DFSP. The original site plans were modified to ensure that all eight of the proposed warehouses would be located outside the QD arc. Construction of the stormwater retention pond within the QD arc is permissible and may be required. If any portion of the Proposed Action (road or stormwater retention pond construction) is within the QD arc for DFSP, proper waivers will be obtained for those personnel working in the area.

Figure 4-1 Site plan for proposed warehouse complex showing QD arc for the DFSP area. All new facility construction would be completed outside of the QD arc for DFSP.

4.9.2 No-Action Alternative

No impacts on safety and occupational health would be incurred under the No-Action Alternative.

4.10 GEOLOGY AND SOILS

4.10.1 Proposed Action

There would be no impacts to geology. Soils exposed during site grading and construction activities are subject to erosion and a small amount of soil erosion is expected during construction and demolition activities since portions of the soil surface would be exposed and disturbed. Soil erosion in areas that are disturbed would be controlled by implementation of a

sediment and erosion control plan, including implementation of Best Management Practices (BMPs).

This EA has been prepared under the assumption that all non-impervious areas disturbed during construction and demolition activities would, at a minimum, be covered with a clean layer of graded and grassed fill. Covering the areas of exposed soil created during construction and demolition with sod would significantly reduce the potential for erosion. Overall, the impacts to soils would be minimal and temporary and are not considered significant.

4.10.2 No Action Alternative

No impacts to geology and soil would be incurred with implementation of the No-Action Alternative.

4.11 INDIRECT AND CUMULATIVE IMPACTS

There are no site-specific direct, indirect, or cumulative impacts associated with the Proposed Action at MacDill AFB.

4.12 UNAVOIDABLE ADVERSE IMPACTS

There are no significant unavoidable adverse impacts associated with the Proposed Action at MacDill AFB.

4.13 RELATIONSHIP BETWEEN SHORT-TERM USES AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

Construction of the new warehouse complex would have a positive effect on long-term productivity by providing the multiple organizations with the sufficiently sized, conveniently located warehouses.

4.14 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Fuels, manpower, materials, and costs related to construction and demolition under the Proposed Action would be irreversibly lost.

SECTION 5.0 PERSONS CONTACTED

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SECTION 7.0
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APPENDIX A
CONSISTENCY STATEMENT

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APPENDIX A

CONSISTENCY STATEMENT

This consistency statement will examine the potential environmental consequences of the Proposed Action and ascertain the extent to which the consequences of the Proposed Action are consistent with the objectives of Florida Coastal Management Program (CMP).

Of the Florida Statutory Authorities included in the CMP, impacts in the following areas are addressed in the EA: beach and shore preservation (Chapter 161), historic preservation (Chapter 267), economic development and tourism (Chapter 288), public transportation (Chapters 334 and 339), saltwater living resources (Chapter 370), living land and freshwater resource (Chapter 372), water resources (Chapter 373), environmental control (Chapter 403), and soil and water conservation (Chapter 582). This consistency statement discusses how the proposed options may meet the CMP objectives.

CONSISTENCY DETERMINATION

Chapter 161: Beach and Shore Preservation

No disturbances to the base's canals are foreseen under the Proposed Action or Alternative Actions.

Chapter 267: Historic Preservation

The Air Force and the Florida State Historic Preservation Officer have determined that the Proposed Action will have no effect on historic properties associated with the Base.

Chapter 288: Economic Development and Tourism

The EA presents the new employment impact and net income impact of the Proposed Action and alternative. The options would not have significant adverse effects on any key Florida industries or economic diversification efforts.

Chapter 372: Saltwater Living Resources

The EA addresses potential impacts to local water bodies. Water quality impacts were surveyed for existing conditions at the Proposed Action and alternatives. Results indicate that no impacts would result from the Proposed Action or alternatives.

Chapter 372: Living Land and Freshwater Resources

Threatened and endangered species, major plant communities, conservation of native habitat, and mitigation of potential impacts to the resources are addressed in the EA. The Proposed Action and alternatives would not result in permanent disturbance to native habitat and should not impact threatened or endangered species.

Chapter 373: Water Resources

There would be no impacts to surface water or groundwater quality under the Proposed Action or alternatives as discussed in the EA.

Chapter 403: Environmental Control

The EA addresses the issues of conservation and protection of environmentally sensitive living resources; protection of groundwater and surface water quality and quantity; potable water supply; protection of air quality; minimization of adverse hydrogeologic impacts; protection of endangered or threatened species; solid, sanitary, and hazardous waste disposal; and protection of floodplains and wetlands. Where impacts to these resources can be identified, possible mitigation measures are suggested. Implementation of mitigation will, for the most part, be the responsibility of MacDill AFB.

Chapter 582: Soil and Water Conservation

The EA addresses the potential of the Proposed Action and alternatives to disturb soil and presents possible measures to prevent or minimize soil erosion. Impacts to groundwater and surface water resources also are discussed in the EA.

CONCLUSION

The Air Force finds that the conceptual Proposed Action and alternatives plans presented in the EA are consistent with Florida's CMP.

APPENDIX B

AIR FORCE FORM 813

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REQUEST FOR ENVIRONMENTAL IMPACT ANALYSIS

Report Control Symbol RCS: 18109-11

INSTRUCTIONS: *Section I to be completed by Proponent. Sections II and III to be completed by Environmental Planning Function. Continue on separate sheets as necessary. Reference appropriate item number(s).*

SECTION I – PROPONENT INFORMATION

1. TO *(Environmental Planning Function)*	2. FROM *(Proponent Organization and functional address symbol)*	2a. TELEPHONE NO.
6 CES/CEV	STEPHAN BOYD 6 CES 7621 HILLSBOROUGH LOOP DRIVE, MACDILL AFB, FL 33621-5207	813-828-2543

3. TITLE OF PROPOSED ACTION

Construct Medical Group Storage Facility

4. PURPOSE AND NEED FOR ACTION *(Identify decision to be made and need date)*

(see attached)

5. DESCRIPTION OF ACTION AND ALTERNATIVES (DOPAA) *(Provide sufficient details for evaluation of the total action)*

(see attached)

6. PROPONENT APPROVAL (Name and Grade)	6a. SIGNATURE	6b. DATE
Jason Kirkpatrick		5/28/2009

SECTION II – PRELIMINARY ENVIRONMENTAL SURVEY *(Check appropriate box and describe potential environmental effects including cumulative effects) (+=positive effect; 0=no effect; - = adverse effect; U=unknown effect)*	+	0	-	U
7. AIR INSTALLATION COMPATIBLE USE ZONE/LAND USE *(Noise, accident potential, encroachment, etc.)*		X		
8. AIR QUALITY *(Emissions, attainment status, state implementation plan, etc.)*		X		
9. WATER RESOURCES *(Quality, quantity, source, etc.)*				X
10. SAFETY AND OCCUPATIONAL HEALTH *(Asbestos/radiation/chemical exposure, explosives safety quantity distance, bird/wildlife aircraft hazard, etc.)*		X		
11. HAZARDOUS MATERIALS/WASTE *(Use/storage/generation, solid waste, etc.)*		X		
12. BIOLOGICAL RESOURCES *(Wetlands/floodplains, threatened or endangered species, etc.)*		X		
13. CULTURAL RESOURCES *(Native American burial sites, archaeological, historical, etc.)*		X		
14. GEOLOGY AND SOILS *(Topography, minerals, geothermal, Installation Restoration Program, seismicity, etc.)*				X
15. SOCIOECONOMIC *(Employment/population projections, school and local fiscal impacts, etc.)*		X		
16. OTHER *(Potential impacts not addressed above.)*		X		

SECTION III – ENVIRONMENTAL ANALYSIS DETERMINATION

17.		
		PROPOSED ACTION QUALIFIES FOR CATEGORICAL EXCLUSION (CATEX) #_____; OR
	X	PROPOSED ACTION DOES NOT QUALIFY FOR A CATEX; FURTHER ENVIRONMENTAL ANALYSIS IS REQUIRED.

18. REMARKS

MacDill AFB is located in a maintenance area for the following criteria pollutants: Ozone. Direct emissions from construction and indirect emissions from visiting traffic and/or follow-on operations, when totaled are less than the *de minimus* amounts in 40 CFR 93.153; therefore, a conformity determination is not required.

Due to long range plans to construct multiple warehouses at the site of the proposed action, this project could not be CATEXed and an Environmental Assessment will be prepared to address the potential for cumulative effects.

19. ENVIRONMENTAL PLANNING FUNCTION CERTIFICATION (Name and Grade)	19a. SIGNATURE	19b. DATE
ROBERT B. HUGHES, YF-03 Director, 6th Civil Engineer Squadron		21 Jul 09

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4.0 PURPOSE AND NEED FOR ACTION

The Medical Logistics function requires a secure, covered facility for the storage of War Reserve Materials necessary to support Medical Group operations at MacDill AFB. The 6th Medical Group has continued to grow during the last eight years and they have exceeded the capacity of their existing storage facility. The Medical Group currently has 39 active projects all of which require storage of materials. Construction of the new storage facility would provide the 6th Medical Group with the additional storage space needed to insure they are able to meet mission requirements.

5.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

5.1 Description of the Proposed Action

The Proposed Action would construct a 4,800 square foot (sf) warehouse facility to provide additional storage space for the 6th Medical Group. The estimated cost for construction of the Medical Group Storage facility is approximately $800K.

5.1.1 The proposed facility would be constructed in the western portion of the base on an undeveloped grassy parcel of land adjacent to the Defense Fuels Supply Point (DFSP) facility. The proposed facility would be designed using standard engineering principles and constructed to comply with the MacDill Air Force Base Architectural Compatibility Plan (ACP). The building would be designed to withstand 130 mile per hour wind loads in accordance with current building standards. The new facility would comply with DoD minimum antiterrorism construction standards. The facility would be constructed following the construction guidelines outlined in Section 4.2 of the MacDill AFB Floodplain Management Plan. The facility would be elevated above the 100-year floodplain with a minimum finish floor elevation of 11.5 feet. The remainder of the site is a maintained open grass field. The project site, including building footprint, paved areas, stormwater retention pond, and green spaces covers roughly 0.25 acres.

5.1.2 The proposed storage facility would be constructed on a new concrete slab measuring approximately 48 feet by 100 feet for a total of 4,800 square feet. The facility would be constructed using steel I-beam for the interior frame or skeleton. The walls would be constructed using two-inch thick textured wall panels. The roof would be a VSR™ roof system with a minimum R-19 insulation rating. The facility would have an 18-foot wide roll-up metal door at one end of the facility. The facility would be designed to allow vehicles to drive into the building to pick-up or drop-off war reserve materials. A lockable, three-foot wide metal door would be located next to the large roll-up door. A small area inside the storage facility would be enclosed to create a restroom area. The restroom would include a sink and a toilet. A concrete driveway would be constructed between the new storage facility and North Boundary Road which runs in front of the proposed location. The Medical Group storage facility is planned to be the first of several warehouses within a new 'warehouse district'.

5.1.3 The project would result in the installation of roughly 6,000 sf of new impervious surface and no existing impervious surfaces would be removed under the Proposed Action. To compensate for the increased impervious surfaces, on-site stormwater

associated with expanding and retrofitting an existing building to serve as a storage facility were estimated to be greater than the cost of new construction. New construction is always preferred over renovation if costs are similar, therefore, the add/alter alternative was considered impractical.

5.2.2 No Action: This alternative would not construct a new facility to provide additional storage for war reserve materials for the 6th Medical Group at MacDill AFB. The 6th Medical Group would continue to work with the limited space in their existing storage facility on the south end of the base.

6.0 SUPPORTING DOCUMENTATION

Although this project specifically includes only construction of a single small storage facility, it acknowledges the longer range plans to construct multiple similar storage facilities and create a warehouse district on the western side of the base. Since long range plans have been developed to construct the warehouse district, the Environmental Impact Analysis Process Working Group determined that preparation of an Environmental Assessment is the most appropriate way to address cumulative effects associated with the proposed warehouse district. An Environmental Assessment will be prepared to determine if a Finding of No Significant Impact is appropriate for this action.

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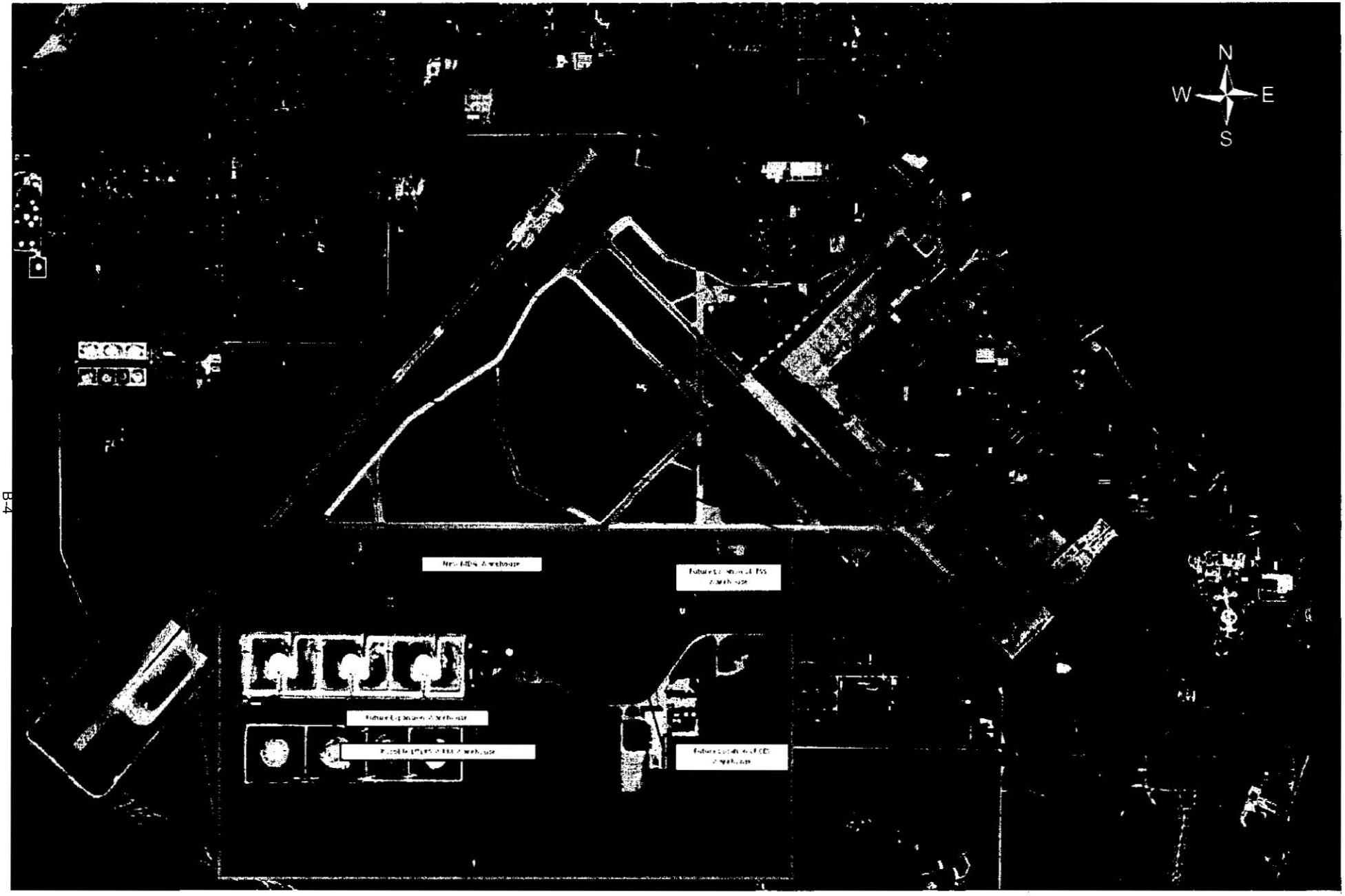

Figure 1 – Location of proposed MDG storage facility which will be the first storage facility constructed as part of a 'warehouse district' in the western portion of MacDill AFB. Surrounding land is largely undeveloped but does include some industrial facilities and limited residential development north of the fence line off base.

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WAREHOUSE DISTRICT

(MDG WAREHOUSE)

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APPENDIX C

AIR EMISSIONS CALCULATIONS FOR PROPOSED ACTION AND CUMULATIVE AIR EMISSIONS CALCULATIONS

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Summary Summarizes total emissions by calendar year for the Warehouse Complex. Assumed construction of two facilities each year with a total of eight warehouses

Combustion Estimates emissions from non-road equipment exhaust as well as

Fugitive Estimates fine particulate emissions from earthmoving, vehicle traffic, and windblown dust

Grading Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions.

Tier Report Summarizes total emissions for the Hillsborough County, FL for 2002 to be used to compare project to regional emissions.

Construction Emissions from Proposed Action	**NO_x (tpy)**	**VOC (tpy)**	**CO (tpy)**	**SO_2 (tpy)**	**PM_{10} (tpy)**
Construction Combustion	0.182	0.067	0.211	0.005	0.006
Construction Fugitive Dust	0.000	0.000	0.000	0.000	1.379
TOTAL CY2010	0.182	0.067	0.211	0.005	1.386

Since future year budgets were not readily available, actual 2002 air emissions inventories for the county were used as an approximation of the regional inventory. Because the Proposed Action is several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set were used.

Hillsborough County

Year	**Point and Area Sources Combined**				
	NO_x (tpy)	**VOC (tpy)**	**CO (tpy)**	**SO_2 (tpy)**	**PM_{10} (tpy)**
2002	58,191	34,880	6,517	65,890	22,379

Determination Significance (Significance Threshold = 10% or above De minimuis values) for Construction Activities

Total Emissions for the Eight Warehouses

Pollutant	**Proposed Action Annual Emissions (tpy)**	**Hillsborough County Emissions (tpy)**	**Net Change (%)**	**De minimis Values (tpy)**	**Above/ Below De minimis**
CO	0.845	6,517	0.0130%	100	Below
VOC	0.268	34,880	0.0008%	100	Below
NO_X	0.728	58,191	0.0013%	100	Below
SO_X	0.021	65,890	0.0000%	100	Below
PM_{10}	5.542	22,379	0.0248%	100	Below
Pb	--	4.46	--	25	--

Summary Summarizes total emissions by calendar year for cumulative construction projects.

Projects Included Summarizes construction and demolition projects included for cumulative analysis

Combustion Estimates emissions from non-road equipment exhaust as well as painting.

Fugitive Estimates fine particulate emissions from earthmoving, vehicle traffic, and windblown dust

Grading Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions.

Tier Report Summarizes total emissions for the Hillsborough County, FL for 2002 to be used to compare project to regional emissions.

Construction Emissions from Cumulative Projects	**NO_x (tpy)**	**VOC (tpy)**	**CO (tpy)**	**SO_2 (tpy)**	**PM_{10} (tpy)**
Construction Combustion	15.31	6.27	47.77	1.20	1.37
Construction Fugitive Dust	0.00	0.00	0.00	0.00	13.71
Total Annual Emissions	15.31	6.27	47.77	1.20	15.08

Emissions shown above are only for one calendar year. Emissions would be the same for each calendar year.

Since future year budgets were not readily available, actual 2002 air emissions inventories for the county were used as an approximation of the regional inventory. Because the Proposed Action is several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set

Hillsborough County

Year	**Point and Area Sources Combined**				
	NO_x (tpy)	**VOC (tpy)**	**CO (tpy)**	**SO_2 (tpy)**	**PM_{10} (tpy)**
2002	58,191	34,880	6,517	65,890	22,379

Determination Significance (Significance Threshold = 10% or above De minimuis values) for Construction Activities

Pollutant	**Cumulative Construction Annual Emissions (tpy)**	**Hillsborough County Emissions (tpy)**	**Net Change (%)**	**De minimis Values (tpy)**	**Above/ Below De minimis**
CO	47.768	6,517	0.7329%	100	Below
VOC	6.272	34,880	0.0180%	100	Below
NO_X	15.305	58,191	0.0263%	100	Below
SO_X	1.199	65,890	0.0018%	100	Below
PM_{10}	15.082	22,379	0.0674%	100	Below
Pb	--	4.46	--	25	--

Construction Projects	Total Building Area (ft^2)	Total Paved Area (ft^2)	Total Disturbed (ft^2)	Year Start Construction	Est Construction Duration (yrs)	Est Completion Date
USSOCOM Acquisition Center (501E)	97,140	NA	32,380	2008	2.0	Jan-10
USSOCOM Center for Special Operations (501D)	96,000	NA	60,000	2008	2.0	Feb-10
USSOCOM Parking Garage (501D Phase 2)	340,000	NA	113,000	2008	2.0	Jun-10
USSOCOM Acquisition & Logistics Center (B306)	4,000	NA	4,000	2008	1.0	Aug-10
EOD Facility	13,087	39,000	52,087	2009	1.5	Jan-10
Aeromedical Staging Training Squadron (ASTS)	5,000			2009	1.0	Jun-10
JCSE Squadron Facility	77,344	31,500	70,172	2009	1.0	Jul-10
Construct POV Car Wash	2,700	30,000	32,700	2009	0.5	Feb-10
New CENTCOM construction and demolition	215,000	40,000	171,191	2009	2.5	Jun-12
VOQ and Collocated Officer Club	60,000	500,000	762,300	2010	2.0	Dec-12
Trans/Supply Complex	106,035	92,900	337,154	2010	2.0	Jun-13
SOCCENT HQ	95,022	120,600	479,160	2010	2.0	Dec-12
DASH 21	4,800	1,200	10,890	2010	1.0	Jun-10
New CATM	6,964	46,500	53,464	2010	1.0	Mar-11
New CDC	31,110	30,000	152,460	2010	1.5	Apr-12
120 Room Dorm	35,620	15,000	50,620	2011	1.5	Jun-13
Total	**1,189,822**	**946,700**	**2,381,578**			

Facility Demolition	Total Building Area (ft^2)	Facility Demolition	Total Building Area (ft^2)
500	34,644	398	2,450
510	1,250	401	3,438
3500		402	2,757
3176		404	2,358
119	1,013	405	3,082
731		408	130
317	3,000	540	187,215
308	1,562	541	2,296
309		543	3,069
310		Medical Treatment Facility (multi facilities)	240,999
397	30,672	**Total**	**519,935**

Construction Combustion Emissions for Cumulative Analysis

Combustion Emissions of VOC, NO_x, SO_2, CO and PM_{10} Due to Construction

Total Building Construction Area:	1,189,822	ft^2	(1)
Total Demolished Area:	519,935	ft^2	(2)
Total Paved Area:	946,700	ft^2	(3)
Total Disturbed Area:	2,381,578	ft^2	(1 - 3)
Construction Duration:	5.0	year(s)	
Annual Construction Activity:	230	days/yr	(Project will last for 1 year (230 working days))

The projects will be conducted over a 5 year period starting in Calendar Year (CY) 2008 and ending on CY 2013
All demolition estimates were based off gross square footage and were divided over a 5 year period.
All construction estimates were based off averaging all benchmark square footages provided and were divided over a 5 year period.

Emission Factors Used for Construction Equipment

Reference: USEPA Compilation of Air Pollutants Emissions Factors and Mobile6, www.epa.gov/otaq 2004

Emission factors are taken from Table 3-2. Assumptions regarding the type and number of equipment are from Table 3-1 unless otherwise noted.

Grading

Equipment	No. Reqd.[a] per 10 acres	NO_x (lb/day)	VOC[b] (lb/day)	CO (lb/day)	SO_2[c]	PM_{10} (lb/day)
Bulldozer	1	29.40	3.66	25.09	0.59	1.17
Motor Grader	1	10.22	1.76	14.98	0.20	0.28
Water Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	3	60.51	9.02	70.69	1.21	2.03

Paving

Equipment	No. Reqd.[a] per 10 acres	NO_x (lb/day)	VOC[b] (lb/day)	CO (lb/day)	SO_2[c]	PM_{10} (lb/day)
Paver	1	7.93	1.37	11.62	0.16	0.22
Roller	1	5.01	0.86	7.34	0.10	0.14
Total per 10 acres of activity	2	12.94	2.23	18.96	0.26	0.36

Demolition

Equipment	No. Reqd.[a] per 10 acres	NO_x (lb/day)	VOC[b] (lb/day)	CO (lb/day)	SO_2[c]	PM_{10} (lb/day)
Loader	1	7.86	1.35	11.52	0.16	0.22
Haul Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	2	28.75	4.95	42.14	0.58	0.80

Building Construction

Equipment[d]	No. Reqd.[a] per 10 acres	NO_x (lb/day)	VOC[b] (lb/day)	CO (lb/day)	SO_2[c]	PM_{10} (lb/day)
Stationary						
Generator Set	1	11.83	1.47	10.09	0.24	0.47
Industrial Saw	1	17.02	2.12	14.52	0.34	0.68
Welder	1	4.48	0.56	3.83	0.09	0.18
Mobile (non-road)						
Truck	1	20.89	3.60	30.62	0.84	0.58
Forklift	1	4.57	0.79	6.70	0.18	0.13
Crane	1	8.37	1.44	12.27	0.33	0.23
Total per 10 acres of activity	6	67.16	9.98	78.03	2.02	2.27

Note: Footnotes for tables are on following page

Architectural Coatings

Equipment	No. Reqd.[a] per 10 acres	NO_x (lb/day)	VOC[b] (lb/day)	CO (lb/day)	SO_2[c]	PM_{10} (lb/day)
Air Compressor	1	6.83	0.85	5.82	0.14	0.27
Total per 10 acres of activity	1	6.83	0.85	5.82	0.14	0.27

a) A default equipment fleet for each activitiy, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.

b) For the purposes of this worksheet ROG = VOC.

c) For this worksheet, SO_2 emissions have been estimated based on approximate fuel use rate for diesel equipment and the assumption of 500 ppm sulfur diesel fuel. For the average of the equipment fleet, the resulting SO_2 factor was found to be approximately 0.04 times the NOx emission factor for the mobile equipment (based upon 2002 USAF IERA "Air Emissions Inventory Guidance") and 0.02 times the NOx emission factor for all other equipment (based on AP-42, Table 3.4-1)

PROJECT-SPECIFIC EMISSION FACTOR SUMMARY

Source	Equipment Multiplier*	SMAQMD Emission Factors (lb/day)				
		NO_x	VOC	CO	SO_2**	PM_{10}
Grading Equipment	6	1984.977	295.893	2318.922	39.700	66.592
Paving Equipment	3	84.368	14.540	123.619	1.687	2.347
Demolition Equipment	2	68.632	11.817	100.597	1.373	1.910
Building Construction	3	550.334	245.339	1918.219	49.653	55.804
Air Compressor for Architectural Coating	3	55.968	20.896	143.074	3.358	6.637
Architectural Coating**			88.899			

*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project

**Emission factor is from the evaporation of solvents during painting

Example: Emission Factor for Grading Equipment NOx = (Total Grading NOx per 10 ac*((total disturbed area/43560)/10))*(Equipment Multiplier)

Summary of Input Parameters

	Total Area (ft^2)	Total Area (acres)	Total Days	
Grading:	2,381,578	54.67	6	(from "Proposed Action Grading" worksheet)
Paving:	946,700	21.73	35	
Demolition:	519,935	11.94	153	
Building Construction:	1,189,822	27.31	230	
Architectural Coating	1,189,822	27.31	20	(per "Air Quality of Thresholds of Significance", 1994 version)

NOTE: The 'Total Days' estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day, which is a factor derived from the 2005 MEANS Heavy Construction Cost Data, 19th Edition, for 'Asphaltic Concrete Pavement, Lots and Driveways - 6" stone base', which provides an estimate of square feet paved per day. There is also an estimate for 'Plain Cement Concrete Pavement', however the estimate for asphalt is used because it is more conservative. The 'Total 'Days' estimate for demolition is calculated by dividing the total number of acres by 0.02 acres/day, which is a factor also derived from the 2005 MEANS reference. This is calculated by averaging the demolition estimates from 'Building Demolition - Small Buildings, Concrete', assuming a height of 30 feet for a two-story building; from 'Building Footings and Foundations Demolition - 6" Thick, Plain Concrete'; and from 'Demolish, Remove Pavement and Curb - Concrete to 6" thick, rod reinforced'. Paving is double-weighted since projects typically involve more paving demolition. The 'Total Days' estimate for building construction is assumed to be 230 days, unless project-specific data is known.

Total Project Emissions by Activity (lbs)

	NO_x	VOC	CO	SO_2	PM_{10}
Grading Equipment	11,909.86	1,775.36	13,913.53	238.20	399.55
Paving	2,924.77	504.04	4,285.45	58.50	81.37
Demolition	10,523.63	1,811.89	15,424.90	210.47	292.83
Building Construction	126,576.74	56,428.05	441,190.42	11,420.18	12,834.84
Architectural Coatings	1,119.35	2,195.90	2,861.47	67.16	132.75
Total Emissions (lbs):	**153,054.35**	**62,715.24**	**477,675.77**	**11,994.50**	**13,741.34**

Results: Total Project Annual Emission Rates

	NO_x	VOC	CO	SO_2	PM_{10}
Total Project Emissions (lbs)	153,054.35	62,715.24	477,675.77	11,994.50	13,741.34
Total Project Emissions (tons)	76.53	31.36	238.84	6.00	6.87
Total Project Emissions (tons/yr)	15.31	6.27	47.77	1.20	1.37

Construction Fugitive Dust Emissions for Proposed Action

Calculation of PM_{10} Emissions Due to Site Preparation (Uncontrolled).

User Input Parameters / Assumptions

Acres graded per year:	10.93	acres/yr	(From "Cumulative Construct Combustion" worksheet)
Grading days/yr:	5.39	days/yr	(From "Cumulative Construct Grading worksheet)
Exposed days/yr:	90	assumed days/yr graded area is exposed	
Grading Hours/day:	8	hr/day	
Soil piles area fraction:	0.10	(assumed fraction of site area covered by soil piles)	
Soil percent silt, s:	8.5	%	(mean silt content; expected range: 0.56 to 23, AP-42 Table 13.2.2-1)
Soil percent moisture, M:	85	%	(http://www.cpc.noaa.gov/products/soilmst/w.shtml)
Annual rainfall days, p:	110	days/yr rainfall exceeds 0.01 inch/day (AP-42 Fig 13.2.2-1, Ave. range from 40-240 days/yr on U.S. coastline)	
Wind speed > 12 mph %, I:	9	%	Average annual windspeed at Tampa, Florida (ftp://ftp.wcc.nrcs.usda.gov/downloads/climate/windrose/florida/tampa/)
Fraction of TSP, J:	0.5	per California Environmental Quality Act (CEQA) Air Quality Handbook, SCAQMD, 1993, p. A9-99	
Mean vehicle speed, S:	5	mi/hr	(On-site)
Dozer path width:	8	ft	
Qty construction vehicles:	17.00	vehicles	(From "Cumulative Construct Grading" worksheet)
On-site VMT/vehicle/day:	5	mi/veh/day	(Excluding bulldozer VMT during grading)
PM_{10} Adjustment Factor k	1.5	lb/VMT	(AP-42 Table 13.2.2-2 12/03 for PM_{10} for unpaved roads)
PM_{10} Adjustment Factor a	0.9	(dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM_{10} for unpaved roads)
PM_{10} Adjustment Factor b	0.45	(dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM_{10} for unpaved roads)
Mean Vehicle Weight W	40	tons	assumed for aggregate trucks

TSP - Total Suspended Particulate
VMT - Vehicle Miles Traveled

Emissions Due to Soil Disturbance Activities

Operation Parameters (Calculated from User Inputs)

Grading duration per acre	3.9	hr/acre	
Bulldozer mileage per acre	1	VMT/acre	(Miles traveled by bulldozer during grading)
Construction VMT per day	85	VMT/day	
Construction VMT per acre	41.9	VMT/acre	(Travel on unpaved surfaces within site)

Equations Used (Corrected for PM_{10})

Operation	Empirical Equation	Units	AP-42 Section (5th Edition)
Bulldozing	$0.75(s^{1.5})/(M^{1.4})$	lbs/hr	Table 11.9-1, Overburden
Grading	$(0.60)(0.051)s^{2.0}$	lbs/VMT	Table 11.9-1,
Vehicle Traffic (unpaved roads)	$[(k(s/12)^{a} (W/3)^{b})]\ [(365-P)/365]$	lbs/VMT	Section 13.2.2

Source: Compilation of Air Pollutant Emission Factors, Vol. I, USEPA AP-42, Section 11.9 dated 10/98 and Section 13.2 dated 12/03

Calculation of PM_{10} Emission Factors for Each Operation

Operation	Emission Factor (mass/ unit)	Operation Parameter	Emission Factor (lbs/ acre)
Bulldozing	0.04 lbs/hr	3.9 hr/acre	0.20 lbs/acre
Grading	0.77 lbs/VMT	1 VMT/acre	0.80 lbs/acre
Vehicle Traffic (unpaved roads)	2.46 lbs/VMT	41.9 VMT/acre	103.30 lbs/acre

Emissions Due to Wind Erosion of Soil Piles and Exposed Graded Surface

Soil Piles EF = 1.7(s/1.5)[(365 - p)/235](I/15)(J) = (s)(365 - p)(I)(J)/(3110.2941), p. A9-99.

Soil Piles EF = 3 lbs/day/acre covered by soil piles

Consider soil piles area fraction so that EF applies to graded area

Soil piles area fraction: 0.10 (Fraction of site area covered by soil piles)
Soil Piles EF = 0.3 lbs/day/acres graded

Graded Surface EF = 26.4 lbs/day/acre (recommended in CEQA Manual, p. A9-93).

Calculation of Annual PM_{10} Emissions

Source	Emission Factor	Graded Acres/yr	Exposed days/yr	Emissions lbs/yr	Emissions tons/yr
Bulldozing	0.20 lbs/acre	10.93	NA	2	0.001
Grading	0.80 lbs/acre	10.93	NA	9	0.004
Vehicle Traffic	103.30 lbs/acre	10.93	NA	1,130	0.565
Erosion of Soil Piles	0.30 lbs/acre/day	10.93	90	295	0.148
Erosion of Graded Surface	26.40 lbs/acre/day	10.93	90	25,981	12.990
TOTAL				27,417	13.71

Soil Disturbance EF: 104.30 lbs/acre
Wind Erosion EF: 26.7 lbs/acre/day

Back calculate to get EF: 465.27 lbs/acre/grading day

Construction (Grading) Schedule for Proposed Action

Estimate of time required to grade a specified area.

Input Parameters
Construction area: 54.67 acres/yr (from "Cumulative Construct Combustion" Worksheet)
Qty Equipment: 17 (calculated based on 3 pieces of equipment for every 10 acres)

Assumptions.
Terrain is mostly flat.
An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.
200 hp bulldozers are used for site clearing.
300 hp bulldozers are used for stripping, excavation, and backfill.
Vibratory drum rollers are used for compacting.
Stripping, Excavation, Backfill and Compaction require an average of two passes each.
Excavation and Backfill are assumed to involve only half of the site.

Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day)	equip-days per acre	Acres/yr (project-specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	54.67	6.83
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	54.67	26.73
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	27.34	27.56
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	27.34	11.31
2315 310 5020	Compaction	Vibrating roller, 6 " lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	54.67	19.18
TOTAL								91.61

Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 91.61
Qty Equipment: 17.00
Grading days/yr: 5.39

* US EPA - AirData Emissions by Category Report - Criteria Air Pollutants, http://www.epa.gov/air/data/geosel.htm
* Monday, 13-Jul-2009 at 1:59:26 PM (USA Eastern time zone)
* Geographic Area: Hillsborough Co, FL
* Pollutant: Carbon Monoxide, Nitrogen Oxides, Particles < 10 micrometers diameter, Particles < 2.5 micrometers diameter, Sulfur Dioxide, Volatile Organic Compounds
* Year: 2002
*
* Pollutant Emissions In Tons Per Year
*

			Point Source Emissions						Nonpoint+Mobile Source Emissions					
State	**County**	**Tier I**	**CO**	**NOx**	**PM10**	**PM2.5**	**SO2**	**VOC**	**CO**	**NOx**	**PM10**	**PM2.5**	**SO2**	**VOC**
FL	Hillsborough Co	01-Fuel Comb. Elec. Util.	1727	55765	6349	4918	64629	190	0	0	0	0	0	0
FL	Hillsborough Co	02-Fuel Comb. Industrial	150	296	18.1	14.2	15.4	13.6	467	984	9.46	6.39	72.4	29.3
FL	Hillsborough Co	03-Fuel Comb. Other	18.6	59	4.66	4.29	3.54	4.67	1846	788	304	289	501	696
FL	Hillsborough Co	04-Chemical & Allied Product Mfg	0	185	183	58.8	0	2.81	0	0	0	0	0	407
FL	Hillsborough Co	05-Metals Processing	790	1.44	45.4	15.4	577	33.6	0	0	0	0	0	0
FL	Hillsborough Co	06-Petroleum & Related Industries	72.6	19.5	35.5	20.3	20.5	26.3	0	0	0	0	0	0
FL	Hillsborough Co	07-Other Industrial Processes	74.6	17.6	368	136	46.8	131	129	0	544	371	0	347
FL	Hillsborough Co	08-Solvent Utilization	0.28	1.11	16.3	5.93	0	646	0	0	0	0	0	20032
FL	Hillsborough Co	09-Storage & Transport	42.1	13.9	387	125	0.44	493	0	0	0	0	0	11391
FL	Hillsborough Co	10-Waste Disposal & Recycling	23.8	31.4	27.3	19.8	1.01	12.4	48.5	14.6	13	9.23	9.18	174
FL	Hillsborough Co	14-Miscellaneous	0	0	0	0	0	0	1128	14.1	14074	1228	13.3	250
FL	Hillsborough Co	11-Highway Vehicles	0	0	0	0	0	0	228413	25546	706	506	1283	22321
FL	Hillsborough Co	12-Off-Highway	0	0	0	0	0	0	94881	21593	1291	1243	2597	8341
		TOTAL	2,899	56,390	7,434	5,318	65,294	1,553	326,913	48,940	16,941	3,653	4,476	63,988

Criteria Air Pollutant	**CO (tpy)**	**NO_x (tpy)**	**PM_{10} (tpy)**	**$PM_{2.5}$ (tpy)**	**SO2 (tpy)**	**VOC (tpy)**	**Pb (tpy)**
Point Sources	2,899	56,390	7,434	5,318	65,294	1,553	-
Area Sources	3,619	1,801	14,944	1,904	596	33,326	-
Stationary Total	**6,517**	**58,191**	**22,379**	**7,221**	**65,890**	**34,880**	
On-road Mobile	228,413	25,546	706	506	1,283	22,321	-
Non-road Mobile	94,881	21,593	1,291	1,243	2,597	8,341	-
Mobile Total	**323,294**	**47,139**	**1,997**	**1,749**	**3,880**	**30,662**	
Grand Total	**329,811**	**105,330**	**24,376**	**8,970**	**69,770**	**65,542**	**4.46**

APPENDIX D
PUBLIC NOTICE
AND AGENCY CORRESPONDENCE

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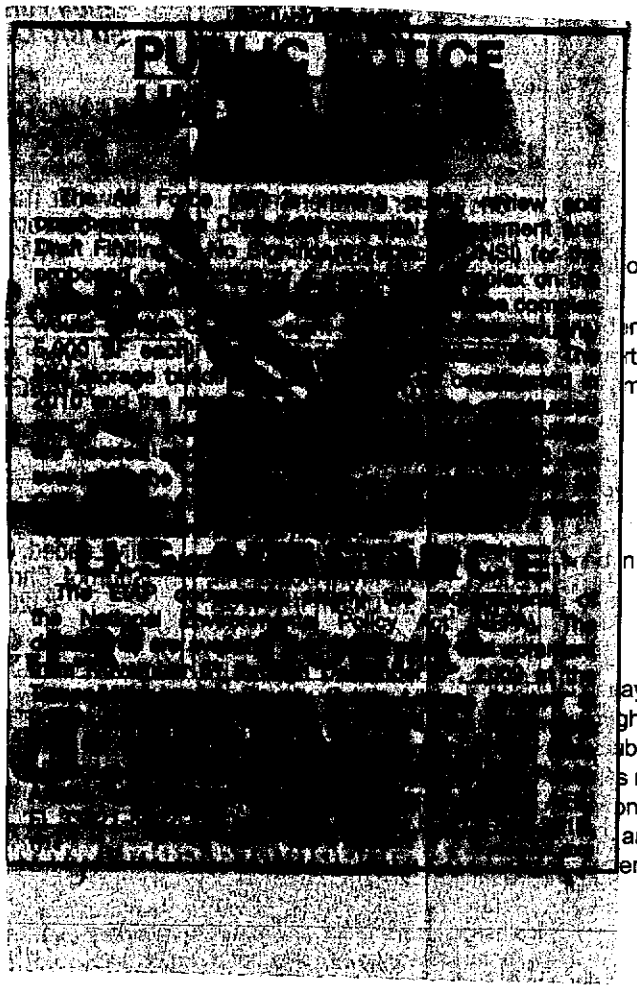

The Tampa Tribune

Published Daily

Tampa, Hillsborough County, Florida

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Expires 08/03/2013

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1010049 -- MACDILL AFB

he is willing to forfeit his annual performance bonus in the coming year.

But he still wants a raise.

In memo to Hillsborough County's Regional Transit Authority board of directors, Armijo points out that the authority has exceeded performance expectations in the past year and praised HART employees for their labor and dedication to the transit system.

"Their hard work is paying dividends and is just the beginning of moving the authority to the next level, recognition as one of the industry's best transit systems," Armijo wrote.

Armijo offers to forego his performance bonus next year but asks that the board consider giving him a merit raise when they meet to discuss his

percent. Last year, he got a 5.9 percent bonus, or $10,302, in additional to his regular salary. He currently makes $174,700.

Board member and Tampa City Councilman John Dingfelder, who has discussed the issue with Armijo, said he is pleased with his performance but not enough to give him a raise.

"He's doing a good job, but I don't think we should be looking at bonuses or pay raises for any government employees right now," he said. "He's making a very good salary."

Still, more than 160 of HART's administrative employees are receiving 1.5 percent merit raises in fiscal 2010, under previously negotiated union contracts. Unionized bus and paratransit workers saw their wages increase

juggling its routes to serve more riders and securing federal funding to expand the system.

He also has been criticized for a lack of communication with the Tampa City Council and has sparred with members of the city's streetcar agency over plans to extend trolley lines.

As HART's CEO, Armijo oversees a regional transportation agency with a roughly $54 million operating budget, upward of 200 buses and more than 700 employees

The authority's finance committee is expected to discuss Armijo's performance at a Nov. 18 meeting and make recommendations to the full board.

Reporters Ted Jackovics and Mike Salinero contributed to this report.

make the payment Wednesday after being assured they'll get the money back, plus additional billions in efficiencies from a unified water delivery system.

"The rates of return for the people will be huge," said Commissioner Jim Norman, who came up with the idea of consolidation.

Steve Burton, managing attorney in the Broad and Cassel law firm, agreed that consolidating the water systems would be a boon for the county. Burton's firm did an initial assessment of the feasibility of merging the county's water system with Tampa, Plant City and Temple Terrace's systems. Seven private water systems in the county could also be part of the package.

ey because of the economic downturn.

- Hillsborough County's water system is split in two by Tampa's system.
- Tampa and Hillsborough County have redundant pump stations in areas where the two systems meet.
- Tampa is currently dumping about 40 million gallons of reclaimed water a day into Tampa Bay because the city can't afford a delivery system. The city faces penalties from state and federal environmental authorities for overloading the Bay with nitrogen from the treated wastewater.

operate the unified system.

Burton said Tampa and Plant City leaders have already expressed an interest in the deal. He has not talked to Temple Terrace officials.

The main focus of the feasibility study will be putting a monetary value on each water system. The study should be completed by January, Burton said. The entire consolidation could be done by September 2010 if the four governments reach an agreement.

Reporter Mike Salinero can be reached at (813) 259-8303.

LEGAL ADVERTISEMENT

PUBLIC NOTICE
UNITED STATES AIR FORCE

The Air Force (AF) is inviting public review and comment on the Draft Environmental Assessment and Draft Finding of No Significant Impact (FONSI) for the proposed construction of a warehouse complex on the western portion of MacDill AFB. The warehouse complex would consist of [illegible] eight storage facilities (roughly 5,000 SF each) [illegible] acres site. The first storage building is proposed to be constructed in 2010 and the remaining facilities would be constructed over a 6-10 year period as additional storage facilities are needed and funding is available. MacDill AFB has evaluated the proposed action in accordance with 32 CFR 989 and finds that it would not result in significant impacts to environmental resources.

U.S. AIR FORCE

The EIAP documents satisfy the requirements of the National Environmental Policy Act (NEPA). The documents are available for public review and comment from November 6th through December 6th, 2009 at the Terrace/Hillsborough County Public Library, located at 9009 N. Armenia Drive, Tampa, FL 33604. The documents may be found in the Humanities Section of the Main Library. Address written comments to the 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215.

7714

November 5, 2009

PUBLIC NOTICE
UNITED STATES AIR FORCE

The Air Force (AF) is inviting public review and comment on the Draft Environmental Assessment and Draft Finding of No Significant Impact (FONSI) for the proposed construction of a warehouse complex on the western portion of MacDill AFB. The warehouse complex would consist of up to eight storage facilities (roughly 5,000 SF each) constructed on a 4.4 acres site. The first storage building is proposed to be constructed in 2010 and the remaining facilities would be constructed over a 5-10 year period as additional storage facilities are needed and funding is available. MacDill AFB has evaluated the proposed action in accordance with 32 CFR 989 and finds that it would not result in significant impacts to environmental resources.

NOTICE OF AVAILABILITY

The EIAP documents satisfy the requirements of the National Environmental Policy Act (NEPA). The documents are available for public review and comment from November 6th through December 6th, 2009 at the Tampa/Hillsborough County Public Library, located at 900 N. Ashley Drive, Tampa, FL 33606. The documents may be found in the Humanities Section of the Main Library. Address written comments to the 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215.

Florida Department of
Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

December 10, 2009

Mr. Jason W. Kirkpatrick
Department of the Air Force
6 CES/CEVN
7621 Hillsborough Loop Drive
MacDill AFB, FL 33621-5207

RE: Department of the Air Force – Draft Environmental Assessment (EA) for Warehouse Complex, MacDill Air Force Base – Hillsborough County, Florida.
SAI # FL200912105046C

Dear Mr. Kirkpatrick:

Florida State Clearinghouse staff has reviewed the referenced Draft EA under the following authorities: Presidential Executive Order 12372; § 403.061(40), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended.

Based on the information contained in the Draft EA and minimal project impacts, the state has determined that, at this stage, the proposed federal action is consistent with the Florida Coastal Management Program (FCMP). Please continue to coordinate with the Southwest Florida Water Management District to ensure compliance with the applicable stormwater management and environmental resource permitting requirements. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage in accordance with § 373.428, *Florida Statutes*.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,

Sally B. Mann

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/lm

FLORIDA DEPARTMENT OF STATE

Kurt S. Browning

Secretary of State

DIVISION OF HISTORICAL RESOURCES

September 28, 2009

Mr. Robert B. Hughes
Department of the Air Force
6 CES/CL
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621

RE: DHR Project File Number: 2009-5561
Proposed Construction of a Storage Facility Complex Located North of North Boundary Road and Adjacent to the Defense Fuels Supply Point
MacDill Air Force Base, Hillsborough County

Dear Mr. Hughes:

This office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places. The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR Part 800: Protection of Historic Properties.

Based on the information provided, it is the opinion of this office that the above-referenced undertaking will have no effect on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail sedwards@dos.state.fl.us, or at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Michael G. Flach
Chief, Environmental Flight
Department of the Air Force
6 CES/CEV
7621 Hillsborough Loop Drive, B30
MacDill Air Force Base, Florida 33621

November 9, 2009

RE: DHR Project File Number: 2009-6359
Draft Environmental Assessment for Warehouse Complex
Finding of No Significant Impact and Finding of No Practical Alternative
MacDill Air Force Base, Hillsborough County

Dear Mr. Flach:

This office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places.* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, *36 CFR Part 800: Protection of Historic Properties* and the *National Environmental Policy Act of 1969,* as amended.

Based on the information provided, it is the opinion of this office that the above-referenced undertaking will have no effect on historic properties.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail sedwards@dos.state.fl.us, or at 850-245-6333 or 800-847-7278.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Deputy State Historic Preservation Officer
For Review and Compliance

DEPARTMENT OF THE AIR FORCE
6TH AIR MOBILITY WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

30 JUL 2009

mailed letters 9/1/09

MEMORANDUM FOR US FISH AND WILDLIFE SERVICE
ATTN: MS. LINDA SMITH
600 4TH STREET SOUTH
ST PETERSBURG FL 32399

RECEIVED
SEP 28 2009
By L. Smith

FROM: 6 CES/CL
7621 Hillsborough Loop Drive
MacDill AFB FL 33621

SUBJECT: Construction of Storage Facility Complex at MacDill AFB

1. The US Air Force intends to construct a new storage facility complex for multiple organizations. The proposed facility complex would be constructed in the western portion of the base in an industrial area just north of the North Boundary Road, adjacent to the Defense Fuels Supply Point (DFSP). The proposed storage facility complex would be constructed in an undeveloped, grassy parcel just east and adjacent to DFSP (see attachment). There are currently no buildings on the site proposed for construction and the site is not located within either of MacDill's Historic Districts.

2. A representative from the MacDill Cultural Resources staff surveyed the proposed construction site to determine if any cultural resources would be affected. No cultural resources were observed on any of the sites and the sites are not located in one of the MacDill's Historic Districts. MacDill AFB believes that the proposed construction project would not adversely impact cultural resources.

3. If you have any questions about the proposed construction and demolition project, please contact Mr. Jason Kirkpatrick, 6 CES/CEV, at (813) 828-0459.

ROBERT B. HUGHES, YF-03
Director, 6th Civil Engineer Squadron

Attachment:
Figure 1 – Proposed Construction Site on MacDill

FWS Log No 10-I-0014

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) This finding fulfills the requirements of the Act.

for David L. Hankla
Field Supervisor

10/9/09
Date

Rider, Andrew W CTR Contractor AMC 6 CES/CEVW

From: Kirkpatrick, Jason W CTR USAF AMC 6 CES/CEVN
Sent: Monday, January 11, 2010 1:18 PM
To: Rider, Andrew W CTR USAF AMC 6 CES/CEVW
Subject: FW: Draft EA for Warehouse Complex

NOAA input, for inclusion in the "correspondence" section.

//SIGNED//

JASON W. KIRKPATRICK, Contractor
6th Civil Engineer Squadron
Comm 813-828-0459
DSN 968-0459

-----Original Message-----
From: Mark Sramek [mailto:Mark.Sramek@noaa.gov]
Sent: Monday, January 11, 2010 11:45 AM
To: Kirkpatrick, Jason W CTR USAF AMC 6 CES/CEVN
Subject: Draft EA for Warehouse Complex

NOAA's National Marine Fisheries Service, Southeast Region, Habitat Conservation Division, has reviewed the subject Department of Defense, U. S. Air Force, 6th Air Mobility Wing (AMC) MacDill Air Force Base, Florida, Draft Environmental Assessment for Warehouse Complex dated October 27, 2009. We anticipate that any adverse effects that might occur on marine and anadromous fishery resources would be minimal and, therefore, do not object to authorization of this activity.

Thank you for your efforts to coordinate with our office in accordance with the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act.